

GULF OF MEXICO ALLIANCE MEETING
June 9, 2005
Rookery Bay National Estuarine Research Reserve
Naples, Florida

Opening remarks by Colleen Castille, Secretary, Florida Department of Environmental Protection

When the governor wrote a letter to the other states we didn't know where it would go. There are a lot of things we disagree on. But, when we got together on the phone and found there were issues we could agree on, and accomplish with this collaboration, I got excited. I was pleased to see the excitement last night and to see this initiative moving forward.

When we decided to bring science into this element with the best and brightest people and use their knowledge as the foundation of this initiative then I knew we really had something. We were going to be a credible group and accomplish something. This group is not interested in wasting time and we will come up with an action plan that will protect this ecosystem; an ecosystem in peril. I knew we were truly going to make a difference.

We've been hard at work with the development of the five priorities we're going to talk about today. We've got white papers our scientists have been putting together over the last five or six months. Today we're going to review each paper and each state will take a lead on one of them. When these papers come out of this body, it has a part of each of our desires because all states' interests are represented. Then we'll hear from our federal partners, and have some discussion. I hope at the end of the day we'll have a better idea of the possibilities for collaboration. Then we will take this process to each of our stakeholders – who work and play in this ecosystem. Our ultimate goal is to set measurable objectives and finalize the action plan in November of 2005. We will see how we can help them and see how they can help us. I am confident we'll have a good action plan to put into place shortly after November. I know we can make some great achievements in our lifetime.

Laura Cantral with the Meridian Institute is the facilitator. She introduces herself, tells about the Meridian Institute and notes that she hopes to capture a sense of energy.

Introductions and Review of Agenda

James L. Connaughton, Chair, White House Council on Environmental Quality

Good morning everybody, I'm thrilled to be here. This particular meeting is of central importance, not just to me, but also to the President. I invited the Mayor to join us, because at the end of the day it's the mayors of the local communities that this is all about. Mayor – thank you. I'm going to dive in a little bit. My goal is to give a technical overview of how we're organizing ourselves, and where we want to go, and the vision that guides that.

I wanted to share a bit about our work with other regions. One of the things federal partners are bringing to table is experience in other areas. That's something we can help translate. We'll create feedback loops, together with organizations such as CSO. I also want to add some suggestions for making real progress. Hopefully 5 to 10 minutes for Q&A.

The Ocean Commission process, the Pew process and others over the last 15-20 years, in my perspective as a historian if you will, have largely been about getting a keener and keener sense of the problems. So the last 15 years has been about risk assessment, and now we're about risk management. The last 30 years have been silo analysis. Next 30 are about fusing the silos.

I've heard a lot of speeches in the last 30 years that "we are loving our oceans to death." We are now prepared with our objective is to love them back to life. Each of these regional collaborations has to be about that. I think we can get beyond the problem statement and get to a vision of the future. We have to shift from telling people how bad things are because people don't get mobilized unless they see the kind of outcomes they can get behind. As we're orienting our efforts, we have to be able to define what we're about in a way that people can see what happens to their future.

These discussions talk about environment and economy going hand and hand. We're sitting in a region we call the workhorse of recreation and enjoyment. It has more going on, the emerging social dynamism, and this vast treasure-trove of resources and a trove of biodiversity even in its current state. Other parts of the country are declining in that respect. When we talk about a workforce that will continue to grow, there's going to be growth. It isn't a tradeoff between environment and economy. It is only through a thriving economy that we can make the next generation of investments in the environment and bring these changes about. It is in these communities that smart infrastructure planning brings about growth. Communities that are thriving, think about how the environment adds value, those are the ones that bring the resources and the investment.

In the Gulf, trillions of dollars are going to be spent in the next 30 years. That money can be mobilized very intelligently toward the goals that are going to be set. The vision and overall living framework of what we are trying to achieve over the next 30 years. Focus needs to be on how we design our partnerships, our planning, to be sure we've identified the shared goals so as the investment occurs we can be sure it adds to our ecological and resource protection goals. A lot of the communities are upgrading, retooling because they are in a competitive market. That is the time we can make progress. There will always be limited resources. We'll always have constraints on resources, so we want to spread the dollars as far and as effectively as we can. I think having NASA here is a great example. You should see what they're doing at their facility. They're planning for environmental objectives eight years from now. This is the big picture and expectation that as we make these big investments. It helps inspire people. We need to better define what we're doing and what we will get. Highway planning – upgrading at the right time. The farm bill, we have USDA here. Over the next 10 years, 40 billion will flow to our farmers. That can flow with the medium level of performance currently expected, or it can flow in a much more competitive way to create higher levels of performance. And farmers want to be part of the solution. Let's figure out if we can give farmers in this riparian system to together apply for these payments and we can achieve these objectives, and not in an ad hoc way. If private money comes in, then we can put in ours, and it all comes together. As federal partners we can put up our resources and work together. That's the big vision.

Now let me give you a sense of where we are a sense of perspective. When I came into government four years ago...I was in the trenches...I was shocked that the governors on a

regional basis didn't get together to talk about priorities on regional issues. I was glad to hear about these other organizations that do. But we have to think of the world in an integrated way. I would deal with them in clumps about what has landed on their desk to break through and resolve. Always talking about the crisis of the day, no opportunity to think ahead. At the Governors' level, it was only last year that said "ok, these are our 8 priorities." Mayor Daily was the catalyst. He came to the White House, brought other mayors with him and got this done. And that led to friendly competition for protecting the public trust.

In many ways the Gulf has been ahead of the Great Lakes. Their structure is ahead, and I think the goal of this effort is to catch back up. The effort is thin in New England. Governor Schwarzenegger has taken a step forward, but effort is still in its infancy. In the Pacific NW the focus is salmon, but salmon is not the root cause. The effort needs to be more comprehensive. We need to flip that around.

Let me take an example from the Great Lakes. In Washington there's legislation for a Great Lakes program of 14 billion. That's the classic way of going about things in D.C. But it's so big, nothing really happens. It's undefined. Where's the money going to go? One thing is for certain, you can't put money down unless you tell them what you're going to do with it. That's going on in Washington. You don't just get money for nothing. You don't get a blank check for a 14 billion dollar project. But now, we're trying to assemble an understanding of the program we've got. What is going on in the Great Lakes process is that there are 140 program associations – 140! And we still haven't found out how they are working and how the dollars are achieving specific objectives. If that's at the federal level, just imagine how the cities are doing. I want to underline how fundamental this inventory function is. We should be fired if we don't know the who, what, where and when of where our dollars are going. We've never asked ourselves to do this before. A foundation of understanding is critical; A foundation for leveraging resources. Do you want EPA to tell the farmers what to do? But then find out the NRCS has a great partnership with them. That's the practical approach achieved by looking at each others opportunities. We can have the 14 billion dollar discussion on the Hill, but we need to define success in substantial, but bite-size opportunities. Need to show that the partnership produces real outcomes at a defined timeline and an understandable size – rather than reading it in the paper. If you deliver specific things they can see, the public will get behind it, and ask for more. When you put the bite-size pieces in context of a long-term vision, with understanding that it's an adaptable vision since the world changes, then you've got something.

If you haven't read NEPA, I'd encourage you to do it – it is short. Everything I just described to you is set out, and that was in 1969. They are with us; we just need to call these concepts forward. It was called "Productive harmony." That was the national goal to attain productive harmony. I think NEPA was the first sustainable development statute before that term was defined. It defines sustainable development better than subsequent efforts. I call this my Back to the Future point. In 1969 we didn't have the technology, awareness of linkages, etc. to implement NEPA. We have all that now. I'm happy to take questions.

Q&A

Len Bahr: discussing the 14 billion...LA request...

Jim Connaughton: Congress had a hard time dealing with the Everglades because they can't deal with a 30 year process. What's happening is you will make more progress in the Gulf now because of the progress that's been made with the ACOE. It's going to deliver real benefits in this format. We can make more progress in the Gulf with the Corp and defined specific objectives with real benefits. We are now prepared to ask for big chunks for LA where there was not action before. What happens is if you over-ask they say we already gave you your 4 billion. However, if you go to congress with the backing of the administration, real state money, and private dollars? That gives you an idea of how important it really is that's the project that Congress will support. They will hand over a federal check along with 5 private industries handing over there check. It is about accelerating the progress we are already making.

Jim Giattina: I'm interested in, is it your vision that as we move into more collaborative efforts, at some point there has to be some alignment of objectives. And not just with federal agencies, but with states. I think shared objectives are key. I see it as a tremendous opportunity and a necessary development. Also, will there be greater recognition of these efforts?

Jim Connaughton: PART tool is doing good things. We have to get from there to here. We're still on the five-yard line. I said, let's start with wetlands. There are 40 different wetlands programs, all with different objectives. We can't establish which one is working. They all have groups associated with them. So where are we getting the biggest bang for our buck the fastest? And each program has a vested interest, so it's hard to shift resources from one to another. But the expectation has to come to this progress, pick your eight goals, and then walk back and ask where we are getting biggest bang for the buck. Agencies are saying it's hard to do, but nobody's saying we shouldn't do it. We can't assume good things are happening. We have to expect all of our people to be junior-varsity scientists. Have to show specific results, and I'm not padding the books. It's a pain in the ass, so we need to use modern tools to deal with the paperwork. We need to do more on the GIS side, do more on the infrastructure side. People hate writing the report afterward, but you can give them matrix tool and they will gladly do it as they go.

David Guggenheim, Ph.D., Consultant, Florida Department of Environmental Protection

It's been wonderful working with all of you. I want to share about 10 minutes of my perspectives on the Gulf of Mexico. Before my consulting work, with The Ocean Conservancy and with The Conservancy right here in Southwest Florida. I've had the pleasure of working with Ray Judah and Mayor Barnett of Naples and Gary Lytton. It's sweet to be back. I'm also an advisory council member for the new Harte Institute in Texas. And also working with the University of Havana on Cuba's first comprehensive assessment of the Gulf of Mexico, so all these worlds have come together.

(video) This video shows some of what we've been seeing in the Gulf through use of this submarine that can you leave you there for three days. I've been exploring the Gulf for several years and we will be launching another study to Pulley Ridge. Some of the highest coral cover in all of Florida. Brilliant corals of blue and purple. Absolutely thriving ecosystem, a treasure in 3 or 4 hundred feet of water. One of the many treasures of the Gulf of Mexico that nobody knows about. There are many such mysteries in the Gulf that we are just starting to appreciate. It really is the forgotten ocean. An entire ecosystem living off the natural gas seeps in that area. We have many other continental shelves, a whole other Florida says Cynthia Earl.

What makes the Gulf of Mexico interesting? Part of it is the geology. There's a whole other world. Shallow shelves, some of the deepest spots over 12,000 feet. You also have important current systems. High diversity of critters and water types and nutrients. And we're just starting to appreciate how the underwater linkages of currents take things and transport, how we're all interconnected. Starting to recognize that fish larvae travel in these underwater conveyor belts. Young Cuban fish may grow up to be American fish.

When you ask people what are the problems. Most people say its pollution and pipes come to mind. Truth is we've done a good job dealing with the pipes. Today the problem is more farms of the heartland and suburban lawns such as we see here in Southwest Florida. Not just the dead zone, but local phenomena as well that may link back to pollution such as the blackwater issue that hit this community just a few years ago.

This is Naples Bay. Looks beautiful, expensive real estate. You would never know that biologists consider it a dead bay. The reason is fresh water. It's anoxic. And here is Golden Gates estates that is now some part of Everglades restoration. But some problems remain. These are canals. We've managed to make freshwater a pollutant. Too much freshwater is not a good thing. So much of the Glades restoration is replumbing. (he points out that it looks like Winnie the Pooh in the map of Florida)

Coral reefs are another important part of the story of the Gulf. We've had some catastrophic events, losing over 40% of the corals in the Keys in the late 90s. We know climate change and over fishing are playing roles in this story. This is also something that's not limited to this part of the Gulf. If we look at Mexico, there are large areas of dead corals. Once magnificent reefs now 90% dead. We're doing work in Cuba, and Cuba has the perception of being pristine and untouched. And in some cases that's true. Some show here are healthy off the coast of San Carlos. Cuba's Gulf has some very healthy reefs, breathtaking and beautiful, and healthy seagrass beds that are part of that coral reef ecosystem. But at the same time we found that most of this reef (shown) was dead. A pattern seen elsewhere in Gulf and around the world. And also no top predators. That's another pattern throughout the Gulf – less of the larger fish. There is a need for more research.

At the same time you have this wonderful place called Flower Garden Banks National Marine Sanctuary. It's thriving. Next to all those oil rigs. One of the mysteries is why is Flower Garden Banks doing so well, and what can we learn from that?

And of course one of the big stories is wetland loss. Local communities are waking up to the fact that saving wetlands and restoring natural flow-ways are more economical than building concrete structures to deal with things like flood control. But there's great urgency given the pace of development.

It is not all doom and gloom because of the correspondence between Pew and the US Ocean Commissions Reports. We need to look beyond political boundaries and talk specifically about shifting to an ecosystem approach. Solving the problem of land-based pollution. Land and water and inseparably linked and that will help us with our policies and education the next generation of ocean stewards. If you look at our 5 priorities, these aren't all the issues in the Gulf, but they're a great starting point, and plenty to keep us busy for awhile.

In 1953 Oscar Award winning film was Erwin Adams the Sea Around Us. It was kind of bloody. This was the movie poster (shown). Evil monsters of the deep, with a skin diver stabbing them shows just how far we've come.

Close with a slide of Jimsea, who spoke at the Everglades conference in Naples. I hope that 30 years from now he'll look back and say it was our generation that lead the nation in the Gulf and seized the opportunity to create a future for the oceans.

Dr. Robert Furgason, Ph.D., President, Harte Research Institute for Gulf of Mexico Studies at Texas A&M University-Corpus Christi

Shows the Corpus Christy Campus, the island campus, 1,800 students. Marine science. This is the sculpture that goes on our campus. I think that's what we are trying to create. We're trying to create momentum today, and that's one of the things we're devoted to. History of the Harte Institute. Involves people from U.S., Mexico, and Cuba.

In December 2001 gathered people from all around the Gulf to help us figure out what should do with this wonderful opportunity. Institute works to bridge policy decisions to good science, generate and disseminate knowledge, encourage tri-national responsibility, collaboration and cooperation with other Gulf partners. Research focus areas: marine policy and law, coastal and marine GIS, ecosystem studies and modeling, marine biodiversity, and others will be added as time goes on.

The summit is something we want to have as a building block. Governor Perry has issued an invitation to fellow Governors. What are the near and long term strategies in your state for promoting Gulf economies and healthy marine environment. and how collaborative efforts can help to achieve that. The summit keynote speaker is Admiral Watkins. (he goes through the agenda) We want to bring the Gulf of Mexico Alliance into the program. Governors' presentations and EPA Gulf Guardian award are also on the agenda.
"Let's make a difference."

Jack Hayes, Ph.D., Deputy Assistant Administrator for Ocean and Coastal Zone Management, NOAA National Ocean Service with co-lead Bryon O. Griffith, Director, U.S. EPA Gulf of Mexico Program Office

I think back to May 10th when I first met Kacky. She told us about a Gulf state initiative and tried to enlist me and Brian in a federal partnership. Kacky's energy and enthusiasm were infectious. We had a little bit of anxiety about this road map, but we thought about what we could do and that it was a great opportunity. Bryon and I started meeting weekly. By April we formed a federal work group. We briefed the interagency management group twice already. You won't see fully developed proposals, but I want to tell you about the fundamental principles of what we are doing.

Guiding Principals in Formulating the Federal Response:

- **Develop issue-specific teams** - We agreed this is not the federal government coming down to the Gulf; it's the federal government saying we can help. What federal programs do we have, and how can we apply them to help.
- **Commit to a long-term partnership** - We're in this for the long haul and commit to a longer term partnership.

- Thoughtfully **respond to Gulf State White Papers** ... with specific, high-impact **federal program integration opportunities** - We want high-impact responses to the white papers.
 - **Quality over quantity** -It's quality, not quantity.
 - Identify **near-term deliverables** and commitments ... the low-hanging fruit - We're trying to make a difference in the near term. It's the next 12 to 18 months. That creates problems as you know; we're submitting an FY07 budget. That's a constraint, but not an impediment.
 - **All actions proposed at the June 9 meeting are "conceptual,"** looking for *regional* buy-in and concurrence - I want to re-emphasize that today's ideas are initial proposals to stimulate discussion. We want your ideas and will solidify for November meeting, and that's where we have to commit to deliverables.
 - Wherever possible, we will work within existing partnership frameworks (e.g., Gulf of Mexico Program, GCOOS, etc.) -The federal working group has agreed not to create new frameworks, but rather to work with existing frameworks.
 - Follow a place-based ecosystem management framework
- Involve as many stakeholders and leaders as the process will bear (e.g., the SIMOR, JSOST, and AQUABOX, Regional Associations (IOOS)) in the development of the *Plan of Action* - Let us know about ways to collaborate. We're committed to this. It's our intent to be in touch with regional associations, and bring in IOOS.
- Encourage and support involvement by Mexico and 6 Mexican Gulf states in this effort
- Soliciting Federal Response Proposals.** These are things you can expect to see from us:
1. Existing- Activities underway or already programmed
 2. Accelerated - Planned activities easily accelerated or refocused
 3. Reallocation- New activities requiring reallocation of current year funds
 4. Partnership – activities that require federal interaction to move forward,
 5. Ocean Action Plan - Activities called for in the U.S. OAP (this cross-walk might help eliminate two needs with one action)
 6. New activities. New out-year activities entered into FY08, and beyond, budget formulation processes. We're committed to the out years. Jack Dunnigan of ecosystem goal team is here. We want to see your ideas get into the plan.

What you'll see this morning is an initial proposal. Where we're on target, tell us, and where we're off-target, tell us that too. Last thing we want to do is focus on what you don't want.

Priority 1: Reductions in Nutrient Loading led by Mississippi

Phil Bass, Director of the Office of Pollution Control

Pleasure to be here today. And thank Colleen, Kacky and David about the outstanding effort that Florida is doing. As one involved in the hypoxia effort last seven years, the difficulty we've had, to pull this off in this amount of time is just amazing. We are wrestling with the nutrient level coming down the Mississippi River. My challenge now is to give you a 15 minute overview of what should take a month and a half. You've got the white paper and summary. Also want to thank Bryon and GOMP. Couldn't have done it without them. To all the other states who helped with the white paper, I thank you too.

Problem Statement/Goal: Introduction of excess nutrients into the estuaries and waters of the Gulf is one of the primary problems facing the 5 Gulf States.

All of us understand the issue of nutrients. All states are wrestling with this because EPA has required us to identify a target, and we're struggling with how you put that mark on the wall. It's a critical thing for us. We know we have impacts. 57% of estuaries are impaired by excess nutrients. 40% of total estuarine surface area in US exhibit degradation. Big hypoxic zone off the mouth of the Mississippi river, and we know we're losing habitat.

Strengths and Progress

- Mississippi River/Gulf of Mexico Watershed Nutrient Task Force

We've done a lot of work on the Mississippi River looking at the source of nutrients, developing targets, and we've developed a great action plan. EPA deserves a lot of credit, but it's been a cooperative effort of multiple fed and state partners. We have a good science strategy, but we need to add to the science we haven't answered all the questions. We are using that in a very good way. There are more ways, focused ways to use all that information.

- *Action Plan for Reducing, Mitigating and Controlling Hypoxia in the Northern Gulf of Mexico* (2001), and,
- *A Science Strategy to Support Management of Decisions Related to Hypoxia in the Northern Gulf of Mexico and Excess Nutrients in the Mississippi River Basin*

You can read what states are doing individually. But we're all working to develop nutrient strategy criteria. We are all working trying to understand what the issues are. We are working on lakes and reservoirs first because they are the easier problems - easier than rivers and estuaries. We're all trying to divide up (the problem) into smaller bites. Most states are looking at an eco-regional approach, establishing basin teams. We're doing the monitoring - establishing monitoring - and we're on target. But once you establish your criteria, then the work begins for everyone else. How do we reduce nutrients in a cost-effective manner? Different states doing different things. Lots of challenges and barriers. Hard to distinguish natural versus anthropogenic sources. It's difficult to differentiate whether it's eutrophication or natural. Those of us who thought we understood the primary sources were surprised by some of the research. In shallow-water areas of Gulf, wind-driven ...

States have trouble working on any kind of environmental issue in shared waters. Because of limited resources and staff, have hard time doing that. Is going to be up to the feds to help us with that. The states have a different time working on and spending a lot of resources on this issue. When they give me my budget I have to spread the budget on those water bodies. All of us face those kinds of issues. The local folks have to help us point to those issues in these shared resources.

A lot of data is missing. We've collected a lot over the years. There's a lot of data we don't have. We can talk about hard budget years. When budget goes down, as ours has last four or five years, typically what states cut is the monitoring. And we're guilty of that. We've got to get good quality data, make sure quality data are going into decisions.

We all need better assessment tools. All of us recognize that. In Mississippi have been doing biological assessment. I think we're pretty good at identifying in our fresh water systems is impaired, but identifying the cause is next. What's missing for us are the tools for doing the assessment in the estuarine environment.

- 2000 Farm Bill

The Farm Bill is out there for us, and we are trying. At the local level, from MS we seem more interested in spreading the money evenly than in prioritizing the money where the issues really are. Offers some fantastic opportunities, and is improving water quality.

Rapidly growing population is going to be an issue in all our papers and facing all of us. Growth pressures are just astounding. Everyone wants to bring what they had up north, like flower beds and lawns, but they bring challenges with them.

Challenges/Barriers

All the states are facing challenges with monitoring. In MS we're spending more on water quality monitoring than we ever have. But 3-4 years ago we had to choose, and decided watershed monitoring was more important. Lots of states have different agencies doing the monitoring. Finding a way to share all the data, make sure it's all consistent, is a problem. There is a lack of funding in all states for monitoring and we need better tools to do the monitoring. And better tools to tie in the chemical and biological data. Coordinated efforts to share the data and make consistent. That's one of the great efforts of the Gulf Program. They help us find a way to do it.

The 2000 Farm Bill is critical to continue. Wastewater treatment plant upgrades and relocation is a huge thing. We have impacted estuaries by relocating waste water treatment plants away from the bay. We've done more by relocating a plant than anything else we can do. We have plans to relocate more, but takes lots of money. We have real opportunities to open up oyster beds and all kinds of things. It takes everybody working together.

- Resources
 - Monitoring – nutrients and biological
 - Development of nutrient criteria & biological response criteria
 - Coordinate efforts to ensure consistency
 - ✓ Nutrient criteria workshops
 - Tools to understand land use relationship to nutrient issues
- Implement nutrient source reduction measures
 - 2000 Farm Bill
 - Ag nutrient reduction
 - WWTP upgrades
 - Urban storm water management
- Collaboration between feds and states
 - Support Action Plan
- Fund environmental lands acquisition programs
 - Establish urban buffers
 - Build filter marshes
- Better standard practices for storm water systems w/federal highway program
- Pair restoration priorities with WQ & wetland mitigation needs
- Comprehensive, coordinated effort to evaluate & prioritize nutrient issues
- Develop strategies/attain resources to reduce excess nutrients
- Funding for nutrient load abatement & monitoring
 - More & better WQ & habitat data
- Study downstream effects of nutrient loading

- Address shared water bodies
- Improve WQ monitoring methodology
- Mesh WQ monitoring programs with biological monitoring programs
- Central repository for Gulf-wide nutrient related data
- Retain support from:
 - Gulf of Mexico Program
 - National Hypoxia Task Force
 - Lower Mississippi River Conservation Committee

Verbal explanation:

If we as states ask you to help us with the nutrient strategy:

1. First and foremost is to continue the work on the nutrient action strategy.
2. Establish better urban buffer areas, better practices for storm water controls with highways as we build bigger and more highway systems.
3. Pair restoration priorities with water quality and wetland mitigation needs.
4. Build a comprehensive effort to evaluate and prioritize...
5. (SEE SLIDES)
6. Better understand the downstream impacts of nutrient loading.
7. A central repository for Gulf data.

Retain support for GOMP, National Hypoxia Task Force. Lower MS River Conservation Committee – it has not gained the momentum that GOMP has. If we don't get some additional support, it will likely go away. It's a consortium that offers invaluable opportunities for the Gulf of Mexico.

Q&A

Colleen Castille: We've been looking at our beach monitoring results and we're just really getting some data now. Seems like you all may have been doing it longer. The sediment issue is something I hadn't considered. How long have you been looking at that issue?

Phil Bass: We've been intensively monitoring beaches for 8 to 10 years. We went in thinking rainfall was the big driver. About 3 years ago began working real hard on source tracking. We began to see hot spots. We sort of can correlate spikes with rainfall. But now we can correlate hot spots with when the southern winds pick up. In high winds, the bacteria go up. So we believe its re-suspension. Much more of a wind-driven system.

Dr. Bryon Griffith, Federal Response

On behalf of the feds and the opportunity to present some early actions, we frankly couldn't have done that without the effort that you put into these papers. You'll see a bit of a tag-team between me and Jack, that's the nature of co-leading. This is definitely not the first time nutrients have come up as a key interest in the key issues of the Gulf States. When the Gulf of Mexico Program was brought into existence in 80s, nutrients were there. And it's consistently headed the list. Nutrient reductions have been a priority and will remain on the table until we solve it. It's a story we're able to actually make some actionable progress as long as we maintain focus on what we've done right and wrong. "No leverage, no chance" on this issue, at least on a regional scale. Jim said you would find it daunting how many programs that are working on elements of monitoring and characterizing of nutrients. Today I can't tell you what that number is in the

Gulf region. It might shock you if it was just a number. But one thing we're really looking at is not to mire you that there are however many, but to build a roadmap for navigating through that. That's why on none of these papers will you see an inventory, a Chinese menu of what you do. Our job is not to give you that Chinese menu, but to help you do what you need to do

Under the US Ocean Action Plan you see 13 federal agencies or departments represented. There are many more programs as a part of that. The profound nature of the white papers is that the states emerged early and picked five issues, you created a subset. If there had been six, seven or eight, this list of agencies would have changed.

A coalition partnership is not really a partnership unless it shares accountability. We want to put as much shared accountability into the structure as possible. So what you're going to see is an evolving structure of leadership, responsibility and participant responsibility for meeting objectives outlined in white papers.

On nutrients, agree this issue in its current level of definition, is right. This is a commitment to take on this challenge. EPA and USDA would be co-leads. Co-lead does not necessarily mean two, but there is an inherent work load. This is today, a commitment on June 9th to begin to assemble the types of responses and packages that you would expect to address this issue.

There is typically a subset- Technical support from additional agencies (CEQ, NOAA, DOI, ACOE, NASA, DoS) There's a commitment to getting the data, to create a central repository. That's very timely. Phil in presentation dealt with an underrepresented monitoring. Research on downstream effects and timing. We briefed the members of Aquabox a week ago and the Army Corp rep. said be very cautious of unintended consequences. He was getting at the replumbing. Aquabox, joint committee on science and technology, assembled. ACOE drilled right into this.

Your papers are actually qualifying enough - there is no reason or excuse for inaction. You look at the capacity sitting around the table. You look at NASA's science. Whether it's dealing with STORET's capacity. There's no excuse for inaction. So this is the team that will mine the capacity of these programs and assets. To keep you out of the mire, not just looking at the programs involved in this, but to actually render an effective action strategy by November. And also in partnership there's a shared workload. Can't over-express important of white papers, but couple things missing. There are two scales of resolution – and they may not be accomplishable.

1. First is to ask you to return to table one last time on what metrics of performance would you put on the table for progress in our partnership on nutrient reductions. What metrics will we use? This is not an easy exercise, as you know. Indicators.
2. Second side of the question, is the Gulf right now, is every area the same to you in terms of importance, or can you begin to ask the greater geography question? If there is a means to have tighter focus on the geography you're looking to change. Which regions? Which refuges? For the federal family that becomes very magnetizing. If you can get a little tighter focus on the geography at the response level that would be very helpful.

Many of us have met each other for the first time. We've assembled a partnership in only eleven weeks and we've come an amazing distance. But the heavy lifting is next. It's not devil in the

details, but opportunity in the details. Give us the opportunity to make an integrated strike on the issues you're after.

Now shift to the real world. This is the closing quarter of the federal fiscal year. What we attempted to do is ask, in 14 project areas, in spite of all federal budget complexity, is there something that – with all the energy in the Gulf now – can be used to address the issue now? Can something be done now? We posed it to the working group. These 14 papers are simply a start – we know good and well they simply weren't prepared to respond today, but the engines are running to give you more.

There were two proposals – two concept proposals. These are not done deals by any stretch – if they don't answer the problem we need to be honest and forthright. You'll see a different cluster [of agencies] on each issue you're after. Today we have initial proposals, but the agencies weren't prepared to make a full response today, but the engine is running, folks are working in parallel right now to identify more we can do right away.

As Jack said, be honest and tell us if projects aren't what you need.

Initial project ideas:

1. Gulf Hypoxia Reassessment Science Coordination (EPA) – models will be applied and appended. Do at least a symposium to present findings to Gulf States, with assumption that many of findings are applicable around the Gulf. *Why?* “Tools [are needed] to better understand the relationship between watershed land uses and the resulting nutrient problem in coastal waters: This will help ensure the development of technically-rigorous TMDLs and coast-effective nutrient load reduction strategies.” coordinated delivery to the Gulf States of continually advancing nutrients science and data tools and resources developed through the 2005 Gulf Hypoxia Science Reassessment . An example was that the boundary conditions of the interactions of the fresh water delivery is difficult to define and is part of the exercise. The proposal is to take what isn't in this reassessment to include a symposium to the Gulf States about this appendix.
2. Innovative Producer Partnership Initiative, MS River Basin (EPA). Individuals have come forward and aggressively want to be included in nutrient concentrations from agriculture to demonstrate that they can be actively involved. They've challenged if BMP can work. They've proposed a process whereby if they could assemble a more formal structure, they'd like to engage the 6 basin structure with the hypoxia task force. We see tremendous potential. This is only one sector that affects watersheds, but they have energy. *Why?* “Reducing the impact of nutrients on our coastal waters will require coordinated state and federal actions, in addition to cost effective public-private partnerships. An adaptive approach that takes action, monitors the results, shares the information and makes adjustments is needed.” Development and support of a strategic public-private partnership to reduce nutrient loadings to the Gulf of Mexico with the leading agricultural producers in the MS River Basin (characterized as providing 80% of the Nation's food and fiber).

Q&A

Colleen Castille: you're presenting options for us to choose from?

Bryon Griffith: this hasn't been totally mapped out... We'd like to have a working session.

Laura clarifies process

Diane Regas: Seems like would also be helpful...The fed response isn't one-to-one to what states put on table. I think it would be good to give states opportunity to identify priorities. Suggests that states should be able to emphasize what is important to them.

Kathleen Hartnett White: one of the states wrote the white paper. I thought we'd have an opportunity to have it presented and to discuss it as states. I appreciate the opportunity to come up with today a bite-sized action that was the consensus from the states. And part of the action would be the manner of partnership with our federal partners. I thought there would be an action step at the least. (She is emphasizing an Action – part of that action would be how it involved the federal partners.) It was a state-up process.

Ray Judah: In the real world here we understand that the Glades are experiencing collapse. The SWFWMD are trying to restore by moving forward with a series of reservoirs constructing to mimic natural pulse. We in Lee and Collier and Charlotte counties are having trouble with Red Tide. It's on the rise. And while the district is working on the reservoirs, there's no water quality component. It needs to be identified as an area of federal interest so we can get a water quality component.

Kameran Onley: are you looking for state discussion...

Kathleen Hartnett-White: perhaps...

Laura Cantral: proposal is to have white paper presentation, then some discussion... think about actionable themes we can take up this meeting.

Charles Chisholm: Is there anything in what you've talked about that would work in a meaningful way to ensure we get all federal programs flying in formation on this one subject?

Bryon Griffith: These proposals are intended to be highly magnetic between agencies. These proposals I would easily state to you are staged to do precisely that. They are difficult going into these programs without meeting their missions.

Colleen Castille: We have to take the federal response on taking that program and overlaying it onto this problem and this initiative. I'd like to propose something based on what everyone's just said. As Commissioner Judah said, what happens on the ground at the watershed level is really what's going to impact the Gulf of Mexico. I appreciate what you're doing. But at some time we have to come to an action item. With respect to each of the states, we're going to see a multitude of watersheds that we're going to have action items on. I think we should probably use case studies with watersheds to give local folks the perspective of how it's really going to impact their lives. I don't think we can take it on a watershed by watershed basis.

Bryon Griffith: we have two goals. One is a theoretical action plan by November. That's a parallel track that can't even begin until we have this dialogue and agree that's what we need to do. This suite of projects is a parallel. Chairman Connaughton said to have bite-sized chunks for progress. These are the low-hanging fruit that we could offer. But by no means do they address all the problems. We would hope...We've had a lot of events surrounding these issues in the Gulf region. We can remember that the event was dialogue, we were hopeful with a set of the mechanics of the proposal and a series of bite sized progress able projects that are do-able.

Greg Ruark: white paper is nice effort to get started. One area where we thought there are some opportunities to take advantage of is along the Mississippi River...If we look at some areas where wouldn't have trees, there's a real opportunity to think about ecological services we can achieve when we do some restoration. There are a few programs where people put trees on their riparian areas and would like to work on easy ways to BMP's. It's not just the land use, but the buffers you have that keep things from seeping out of the system.

Bryon Griffith: white water to blue water initiative. Out of that structure, USDA Forest Service featured the need to look at agroforestry to component solution to Gulf hypoxia and other issues in the wider Caribbean. I think that's what you're proposing?

Greg Ruark: Yes.

Laura Cantral: the proposals, the discussions, are all works in progress. I want to propose that to give the states more opportunity to discuss the white papers, let's open up the question time a bit before the federal response and trim back the discussion of that and cultivate a balanced discussion. Summary of where are... Colleen talked about case studies for watersheds and USDA agroforestry program to support.

Bryon Griffith: question back to states about metrics and geographic focus. They are your white papers – we accept them, they are labeled with many things like resources, resources. We want more definition. We anticipate leaving today that we have a pretty good handle about where the states are with capacity – look at (in the first proposal from the feds) at getting to more detail.

Ken Haddad: Are we assuming acceptance of white papers and everything in them is an action item?

Bryon Griffith: the white papers are yours. The implicit agreement is we anticipate leaving here today with pretty good idea of where states' minds are with regards to nutrients. And then we work with you on an ongoing basis to understand the details.

Laura Cantral: if there's something missing in the white papers, we want to hear that

Columbus Brown: are the papers going to be revised? If they are, what's the time frame? Are they complete?

Kacky Andrews: the white papers were to lay out the needs of the states. We're hoping to drill down more to understand those needs. Those are to kick off the work on an action plan. The goal is to turn the white papers and this dialogue into that action plan.

Laura Cantral: they're still evolving, your discussion is evolving, and your plan is evolving.

Bart Bibler: Bryon's presentation focused on metrics, we have to identify how to measure if achieving goals. And on geographic focus. But the presentation on nutrient reduction inspired lots of discussion because everyone can think of areas to work on for this issue. This issue of hypoxia is a big one.

Bryon Griffith: States thinking about priority watersheds.

Jack Hayes: Do we focus on areas or issues, and the states tell us?

Ken Haddad: One of the things I've seen is a failure to build the infrastructure for what we need to do. It's hard to sit here and talk about more case studies. There is a framework for monitoring coastal waters that we can't move forward without.

Mary Glackin: I think when Phil made his presentation it was so clear the issue of needing data. And what wasn't emphasized in the federal presentation was that we are moving forward with IOOS, and the regional associations. And we need to create a mechanism to ensure that the Gulf RA responds to the highest priority things.

Phil Bass: Areas where we've had success at responding...ozone. We've been able to pool resources and work together on ozone. Those are the kind of tools we need. Right now we're scrambling to do those things that we can do within our borders, but if we could direct Jim Giattina in Region 4 to take a small portion of that money and build some tools we could all use. There are commonalities across areas. Those are the tools we need to really focus on. Careful to recognize the systems are different. Not a rigid process.

Bryon Griffith: Each one of you is coming to the point I think where you're looking to a committable, joint monitoring strategy for the Gulf region. That's a commitment on both sides – that's a serious challenge in development. A premier challenge. Perhaps that's one thing we take away, all states agreeing this is a key need. Of that theme – it would not need a lot more definition than that – a consistent monitoring assessment in the Gulf region.

Jim Giattina: if you look at each of these issue papers, there is a certain logic that says this is the outcome we want, and there are some fundamental steps to get there. One of the things we've all been talking about is nutrient standards, but there's a logic model that says you need to monitor, and then check if getting to outcomes. For us to be effective, have to think of our action at two scales, at two levels: One is central data and the other is end result to measure. What are the activities that are truly regional at scope, and second thing is where do we bring that capacity to bear so when OMB comes calling we can say what achieved. We worked in these five watersheds and reduced such and such. We have to work on both levels. We need the states to get back to us about what are the areas to work on first. We need to target those entities. The only place you get programs working together is in a place on the ground to do this activity. ∴ Where are we going to apply the on-the-ground capability? We need to identify, and have the states identify for us, where are the priority areas? Maybe it is the Glades. Maybe it is Apalachicola. We've seen it for a million years. You can talk forever, but only time gets federal agencies ponying up resources together is when point to specific place on the ground.

Priority 2: Improving and Protecting Water Quality with Emphasis on Beaches & Shellfish Beds led by Florida

Frank Nearhoof, Florida Department of Environmental Protection

Thank all partners, truly a collaborative approach. I thought we settled on a fairly short list of stuff that we all agreed to pretty readily. I'm just going to hit the high points.

Short list of non-nutrient problems: Water Quality problems:

- Elevated bacteria levels
- Harmful Algal Blooms (HABs)
- Hypoxia
- Toxic contamination (most notable is mercury contamination in upper level fish.)

The (problem statement)/goal is to develop collaborative efforts to address problems identified.

Strengths: have a lot of programs to address these issues have been in place for long time. Have extensive array of monitoring - hab, beach, shellfish. BEACH monitoring, etc., some in place for decades actually. We have an extensive set of standards TMDL, DPDES. On the solution end of the scale, have a series of 7 NEPs throughout the Gulf - Those are a good example of collaborative fed, state, local efforts that have dealt with these problems and have had some fair successes. Still probably not enough to really fully define the problems.

Challenges:

1. Dissolved oxygen. First step is to identify appropriate criteria to know if have a problem. Need to refine our criteria, and we all have efforts underway to do that. Complicated in case of oxygen because daily and seasonal fluctuations, and how build into criteria is complicated. Need for sufficient diel data to understand problems and develop more appropriate criteria – refine standards, but is really complicated with seasonal differences. We could use some help. Then next step is how deal with problem.

2. Other pollutants, metals and pesticides. We don't have enough spatial and temporal info to really determine where problems exist. With mercury we understand have broad problem and have implemented programs, but in other cases may not know as well.
3. Bacterial contamination. Better tracking tools to identify the sources. I think we're all in agreement. This is a national issue. Various states, the feds have made progress. An area where could benefit from collaborating. Relating the bacteria to human health is a need. We need epidemiological studies to further refine that.
4. Water quality standards for ecological health, talking about biological indicators Biocriteria, biological tools are important to assess.
5. We know water quality problems are result of what's happening in watersheds. Watersheds/land uses also barriers. We know that land uses are linked to WQ problems and understand this better. And understanding those relationships fully is a big challenge. One thing that could help there is long-term monitoring. Water quality monitoring has to be coupled with monitoring land use change and then can understand the connections. Specifically in coastal areas such as LA see a series of impacts that can result from water quality problems. Linking those problems, tools to help with linking.

Opportunities:

1. Similar problems can lead to collaborative efforts
2. Have some examples of collaboration (e.g. NEPs) and learning from successes in other states.

Specific Recommendations:

1. USEPA funding for comprehensive monitoring
2. Landscape models, being able to relate land use change to water quality problems
3. Bacterial source tracking methods. We actually have a workshop planned in FL, trying to poise ourselves to look at everything we know about bacterial monitoring so when meet with other states can share what have learned.
4. Bioassessment tools
5. HAB methods, to track and ways to understand what's causing the blooms. We need to understand the causal factors better.
6. Mercury and all the toxics, need to monitor, track sources. With mercury we could use more sources we know it's atmospheric, but the fix is going to be very broad and collaborative with other countries.

Needs from feds: (he reads list on slide)

- Landscape modeling tools – EPA ORD
- BST methods
- Bioassessment methods
- Epidemiological studies
- Address sources of toxic contamination
- ID causes of HABs
- Coordinated data collection – database compilation
- Coordination of state/federal partnership meetings

Q&A

Kacky Andrews: can you scroll back a slide or two and keep the needs up there?

Len Bahr: A lot of these things are connected. Specifically on this slide, landscape monitoring tools. In LA we are developing some powerful landscape monitoring tools right now at the state

level. Some federal help, but mostly state driven. I'm very optimistic about this, and would be happy to share what's come out of this. Floridians are involved.

Kacky Andrews: Florida and other Gulf states are developing rapidly. There are studies talking about increases in impervious surface increases. But how can you translate that to management? How is this impacting coastal habitats? Our guts tell us there's an impact, but how much and what? The problem is the linkages to water quality and coastal habitat.

Frank Nearhoof: Yes, it's difficult. In the case of Lake Okeechobee, how the hydrology of it all can be made to work together, that's a daunting task. Trying to put together things to address that. We'd love to learn from others. Was at LSU a little bit ago and learned a lot. Dealing with this in a comprehensive matter is another thing.

Greg Ruark: Looking at land use change - small areas can affect large areas. Need to look at some things that have a benefit to water quality. Riparian buffers. In the case of ag. land it wouldn't be a (land use) change. So look at current condition. We need to do a better job coordinating across rural and urban.

Jim Giattina: Pose a question back to states. As you look at list of items, is this list complete? If it is, do one or two stand out?

Frank Nearhoof: We talked a lot about this during our well attended conference calls and asked that question several times. Our intent was a Gulf Coast paper – is there something missing or big? Didn't hear that we'd missed anything.

Jim Giattina: So that's a distillation of the highest priority list?

Frank Nearhoof: Certainly seemed to be. Not in priority order here. I recognize we have to look for low-lying fruit.

Margaret Davidson: When I look at coordinated data collection and management, thinking there's another level of detail, and that's *integrated* data collection. Putting into a single organizing frame.

Frank Nearhoof: I think that would be extremely helpful. One problem was we didn't have information in STORET to even determine the quality of the data. We then went out and got the data directly from the source to decide what makes the cut. Without that we can't make targets and get to these big issues such as nutrient criteria.

Len Bahr: Jim got me thinking about what's not on list. Was there any serious discussion about the new advances in remote sensing for water quality? The slide Phil Bass used has some remote sensing. Don't know how is going, but assume is advancing.

Frank Nearhoof: There is some discussion of HABSOS in particular. Didn't get into lot of detail.

Bill Walker: There are probably some things we know we could do tomorrow that would help, and I'm not seeing much about additional techniques. I'm seeing a lot of discussion about how to monitor better, to use techniques to study what's happening, but there are things in my state, and I propose in other states, that if we had the facilities and ability, we'd do them tomorrow. We'd decrease the number of septic systems. We'd address non-point pollution better through storm water plans. That sort of thing. I hope we'll focus on those big projects. To be able to do those projects, we spend hundreds of millions, but it's just a drop in the bucket for what we need. I hope we'll walk away with some specific identifiable things we can do together with local federal and private funds to implement.

Kacky Andrews: I think that's what we're trying to do with the action plan. Trying to figure out where is the best bang for our buck.

Diane Regas: One of the issues I'd hoped to come away understanding is as you look at the federal resources going into your state, are those resources being deployed in the ways and places that are appropriate to address these issues, to address issues intended to address? And what can the federal agencies do to make that work better? We talked about priorities and an action item is to go forward and answer that –

Kacky Andrews: I don't know if the states have a great understanding of where the feds are spending their money. It's hard to evaluate because we don't know where it's going.

Laura Cantral: So that's an action item, to share info on what's available, what's being spent and where.

Columbus Brown: There are a number of programs that can really help the states, especially USGS water quality monitoring where the problems are and where they are getting better. Many of us are monitoring in ways that can help you understand problems better. There are a number of items in the Ocean Action Plan that are actionable, and it would be good for states to speak up about what would be useful to them.

Niles Glasco: There is a mechanism in place – a committee – for states to advise us as we implement the Farm Bill. To guide how money is spent. The committee guides us. It's important for you to engage as the Farm Bill money is spent.

Gary Brewer: Following up on what Columbus was saying. I guess I need to plug what USGS does a bit, and invite you to learn more about what we do, and offer an apology because I'm positive we don't do a good job of marketing our science. We have a lot of data that will help you to understanding water quality in the Gulf and we need you to help us prioritize what we do. We need to prioritize the type of info you need. I'm squirming in my chair because USGS is involved with all of these issues, but help us understand your information needs, and help us understand this integration of databases Margaret was talking about. We have bio assessment, modelers and all are addressing these kinds of questions. We have staff working on all these questions that you're after. Don't have all the answers, and are trying to cope with our own internal data management needs in terms of coming up with a synchronized data management. Have a Gulf of Mexico Data Information Management System project – trying to understand bite-sized information, pulling together all the Gulf of Mexico data and get it into a format understandable by all states. Trying to start with a region and then expand. Starting with key databases (Gulf database management system), and you can help us prioritize what should go into this system - the GIS layers. I encourage you to take more advantage of the info that's out there. There's a tremendous amount and none of us are using it effectively. I'll be here all day today, and I can leave my card.

Laura Cantral: Ok, find Gary, talk more.

David Guggenheim: The Harte Institutes first project is to understand what's out there. If you go to Gulfbase.org, this is a clearinghouse of data that's international. Nice starting point to find out where international researchers are.

Kacky Andrews: I don't need more data, I need information derived from the data. We need help developing data into useful tools.

Dr. Jack Hayes: The Federal Response

Our goal here is to protect water quality and aquatic life. The federal team is EPA and NOAA. There are other agencies on larger team. I'll cover two proposals, and Bryon will cover two.

1. Harmful Algal Blooms Forecasting/Observing System (NOAA): to improve our ability to detect and predict them. We are using satellite data today, with weather and ocean data to

predict their movement. We have a prototype in Florida. Our vision is to predict harmful algal blooms throughout the Gulf, but we want to start small right now. We need to know our next focus area. Tell us and we'll orient program to do that. *Why? "... development of tools to address water quality problems include...[m]ethods to detect, identify the cause of, and prevent red tide ..."* Improve models for predicting landfall and transport of HABs in SW Florida. Extend this capability to south Texas / northern Mexico coast – ultimately achieving a “Gulfwide” observing system.

2. Regional shellfish information Management System (NOAA): improve quality information on shellfish growing areas. The second one is on integrated information - Improve currency, accessibility, integrated, interoperability and scope. And in light of the discussion this morning, do it in an integrated fashion. An electronic shellfish register – last copy was printed in 1995. We have a prototype shellfish management system in NOAA, we'd proposed to add more data sources – make it more comprehensive. We've got varying input from states, want to ensure have it all and get it all in database. Aim is to produce picture of the entire Gulf region. *Why? "... compilation of data into a Gulf of Mexico database, with web access to increase data and information sharing ..."* Develop a regional assessment capability for the scale and scope of shellfish growing water closures and the problems contributing to closures.

Bryon Griffith – co-lead Federal Response – two concepts

3. Mercury in Gulf Fish Tissue (EPA & NOAA): released a report that identified 16-18 important areas where more data needs to be applied. There's a burgeoning effort to get a synoptic survey underway with tissue samples from fish across the Gulf. We just offer that as an interesting candidate because like any of these, this invites greater participation and collaboration and acts as a stimulus to this discussion and future efforts. *Why? "... It is known that several species of estuarine and marine fish have locally unacceptably high mercury body burdens; however, the data may be of insufficient quality, quantity and spatial extent to fully protect public health."* Incorporating the results of a survey of mercury in finfish into an existing EPA database of mercury in edible seafood tissues integrating and leveraging NOAA research and modeling capabilities increasing coordination of federal and state mercury research activities.
4. Bacterial Source Tracking in another (EPA). This region has a great collection of leading scientists on this issue. A recent symposium has demonstrated that. Issue is how to move from R&D to application? How do we put this tool in the field? How to actually get in hands of coastal management programs deploying tools in field. There was an earmark of EPA to advance an effort by the University of Southern Mississippi to get at parts of what was outlined in the white paper, a more coordinated effort in the region. This is an effort to spark future dialogue. *Why? "There is...an opportunity for the federal government to provide assistance to the states (e.g. through the USEPA Office of Research and Development) to improve indicators and develop reliable and rapid BST tools and in establishing specific recreational criteria for different sources of the bacteria and by possibly allowing Beach Act monies to be utilized in BST efforts."* Developing molecular fingerprinting method(s) and a digital library to track animals associated with contaminated waters and establishing a Regional (five-state) Bacterial Source Tracking Team.

Q&A

Bart Bibler: In Miami, EPA and NOAA announced an agreement to advanced smart growth to protect coastal resources. I was excited, and think it ties into states concern about coastal water quality. I'd like to see that agreement expand to other agencies that have an interest in water quality. It's a great opportunity, EPA has good resources. Would the feds expand that to other groups, i.e. agriculture.

Kameran Onley: Is this getting at what the states had in mind?

Kacky Andrews: For FL, #2 and #4 look great.

Ken Haddad: How are the agencies that are doing these programs working to integrate them together? That was one of the things that the states had in mind.

Bryon Griffith: These are futurist perspectives for the most integration. Believe offer some of the greatest opportunities for integration, but these are not done deals.

Ken Haddad: How is the HAB forecasting going to integrate with bacterial contamination work?

Bryon Griffith: I don't have an answer yet. You're talking about puzzle pieces. And we will connect the interlocking pieces. Won't be just a HAB system separate from bacterial tracking.

Jack Hayes: I think you're saying that we should focus on integration. And we've identified that as important, but this adds emphasis.

Len Bahr: Louisiana has invested a lot in mercury issues. I don't know if offshore different from inshore, certainly need to be integrated. We may need to look into looking at mercury additions from Mississippi River. I'm not a chemist. I guess it's a long way of saying that Louisiana is very interested in the mercury issue, and dynamics with the river plume, but we really don't know...does diverting that water have a risk of releasing mercury, or maybe covering it up? We really don't know.

Bryon Griffith: I think the action statement is you'd like to see any effort on this linked to the effort in LA?

Len Bahr: yes, and I assume other states have effort on this too.

Larry McKinney: would like to see effort on HABs and mercury.

Phil Bass: For Mississippi, mercury is a big issue. We issued one of first advisories. Bacterial contamination. All of these are things we can support.

Greg Ruark: These are all worthwhile, but they fall into monitoring and assessing and some forecasting, but we want to move forward. Even if we applied what we know now about sources of bacteria could make things better. I'd like to see us move forward with designing BMPs online and apply what we do now on the ground. Some kind of research that is 2-3 years from now.

Jack Hayes: Mary made some comments on the first paper. Stepping back from the trees and looking at the forest. Integration and monitoring are themes I've seen here. And Mary mentioned the IOOS. My line office is playing a significant lead role in pulling together assoc. groups, coalition of fed agencies. RA's, Academia, etc. integration is key. One of the things that the states can help is in prioritizing – what should we do before another. Mercury vs. bacteria monitoring – if we had to choose, which is more important. I'm also hearing that we need to do the monitoring before we know how to respond.

Ken Haddad: I think we can do them all with the right partnerships. Don't think it's necessary to make choices. States are all working on these.

Bryon Griffith: The assumption is that each of these plays back to a theme that's presented as regional in some context.

Lunch Break

Laura Cantral: Listening to recurring themes. ‘Lots of emphasis on monitoring needs, assessment, tracking and all the implications of those activities. Integration and the need to translate that data into management actions. Then also matching those objectives and needs with existing federal program.

Priority 3. Restoration of Coastal Wetlands led by Louisiana

Dr. Len Bahr, Director, Program for Applied Research in the Coastal Area, LA Governor’s Office of Coastal Activities

I’m a big picture person and come from a science background, then policy, now returning to science, but big picture, ecosystem scale. This photograph is view from the space shuttle returning to Camp Canaveral.

Colleen Castille: Please clarify, is that the Mississippi River plume?

Yes, to me, this captures so many things. – We’re all used to looking at maps and photos with north as up and this is an oblique view and isthmus and the whole Florida peninsula.

Len Bahr: The Governor is, I’m told, the President of the Gulf Accord – I’m new to this process so I don’t know the relationship with the Alliance – but I believe she is the upcoming chairman of the southern Governors Association. For 10 years, ever since I came to Key West about the Everglades Restoration. The Governor’s role is paramount, that’s the key. Since then I’ve been trying to get the Governors equally engaged. You should be proud of that fact. Sidney Kofney is shepherding some bills – an energy bill and the Warner Bill -up in D.C. right now. Nobody knows what the odds are, we can all speculate. Revenue sharing in the second bill is something that hasn’t happened since 2000 when Florida got its prize. One thing he said last night. Jim really supports the state/federal partnership issue and I agree, with the possible exception of funding – 50/50 match would be very hard. We’re a poor state. Nevertheless we are doing everything to put that money in place and a realistic cost-sharing arrangement is necessary. A lot of other decisions that cause the problems we are dealing with are federal decisions. We’re doing everything we can,

I was recruited to draft the first version of Louisiana white paper for obvious reasons. We’re loosing unbelievable amounts of wetlands in that area. I also drafted Governor Blanco’s response to the Ocean Commission report. I’m always pushing for more science in this process. I gave it to the Gulf of Mexico Program. Trying to find commonalities among five states isn’t easy. There are some. There are dissimilarities from ecological and geological standpoints. The River itself makes for unequal distribution of resources. 80% of Gulf fresh water comes from the Mississippi River into the Gulf adds a large portion of the nutrients and the sediments into the Gulf. A lot of reports out of EPA say that this part of our ocean are poorer or dysfunctional and I disagree with that. It is the nutrients that make our waters rich that is how a delta works. We’re lucky to have it. This slide brings together the huge drainage basin, that all this stuff is connected. There are no political boundaries, this is one big system– this really brings it home, that all this stuff if connected. There are two things that have been most ignored in LA’s restoration efforts. One is the Mississippi River and we’ve not come to terms with the river. The MS River is the Corp’s animal – you can’t change without their blessing. The river is one thing we’ve over looked, in my judgment, and also look at the third dimension, the vertical dimension.

Very little relief, and Louisiana the least of all. It's very flat, and LA has the least relief of all. You can't tell whether it's land or water and it's sinking all the time. So it's that third dimension. There's a part of NOAA that hasn't been mentioned, and that's the National Geodetic Survey.

The FL folks are very aware of hurricane risk.

I much appreciate the science in terms of measurements. The NOS is very much engaged in developing long-term tide stations. So much rides on mean tide levels. We've been dealing with legal issues dependent on elevation; we don't know how high our land is. We're in a controversy right now. NOAA relevelled our benchmarks and found out the land was lower than we thought. We're engaged in a new controversy and it's come as a big shock to levy boards. As the releveling survey from NOAA shows that our levy's aren't as high as we thought it was. And now TX folks are concerned. The south part of Texas that the land is sinking at a rate of up to 5 points per century. Another thing I haven't heard today is hurricane protection, flood protection. It's a huge problem. If Ivan had hit us, NOLA would probably have been obliterated. Our levees aren't as high as we thought. We can't separate hurricane risk from management. We have a huge controversy over cutting cypress trees. They're turning it into mulch. I understand the cypress logging is moving from Florida to Louisiana. This frightens us. And it jeopardizes our funding if we're asking for money to save ecosystems and people and so forth and then on the other hand we're saying you can log it.

I challenged to say that it's not just wetlands its cypress trees into mulch, we have mangroves, etc. It jeopardizes our coastal forests. I'm one of the people who helped to expand our coastal wetland restoration.. Our monitoring needs to expand way offshore and upstream, too. The white papers you have to read these are non-finished products and they are not ready for prime time and I feel we will get together again to do that. It is a huge challenge to prioritize in five or six pages. We're going to get together again and work on these. It should be called priority wetlands, not just priority wetland restoration. The lessons we've learned so far at our efforts at restoration it's better to save what you've got than to restore. It's much more expensive to restore wetlands than it is to protect unimpaired ones in the first place. We learned that the losses that have occurred across the Gulf Coast are 25 square miles per year. What are you loosing? Not fair, we have 45% of all the coastal wetlands in the US. So comparing is not good. We ought to be about conserving what we have instead of (restoring).

Losses have occurred for very different reasons across the Gulf. Some states are struggling with sprawl. That's not the case in Louisiana. In Louisiana we have people moving away from the coast – they're afraid they'll get wiped out by a hurricane. We have subsidence and erosion, those are primary causes. They are anthropogenic reasons. The delta is dying. Because we've cut off the river from the delta. In Florida you're lucky to have stable limestone platform that's not subsiding in any meaningful way. We're the king of subsidence. We've pumped a lot of oil and gas and ground water that's thought to be one of the reasons. Now thought by USGS that it's a reason, that may rebound now that pumping is more offshore. May recover – we don't know. Lot of science we don't understand on that third dimension.

One thing we tried to capture in white paper is that our technology is so much better than it used to be. With LIDAR for example, we can capture elevation, and bathymetry can be gotten as

well. We're finally getting the power to do elevation and bathymetry. Looking at catastrophic losses there are better techniques – hurricane modelers need better bathymetric. We now have some stuff on hurricane platforms. Allows us to take 3,000 people living on oil platforms and back to land. Mentioned the sat and atmospheric work

That's a taste of what's in the white paper. These five subjects we decided on are so inter-related. We need to do a lot better on the oceanography of this area between the shelf and around this zone. Another need for science is the hypoxic zone – doesn't go a lot into MS, and that's interesting. FL has been plagued with red tides, TX, MS, AL have problems, but in Louisiana, we haven't. We have scientists warning about harmful algal blooms if we put this water back in the delta and with all this nutrient-laden water coming out of the Mississippi. Need for good science.

The Ocean Commission report, I love it in general, but there are some problems. I found it curious, when I reviewed it I did word searches, I had an electronic copy, and they weren't there – nothing about deltas or estuaries. I couldn't find the word estuary. We need to go back and tune it up. One final thing, I'm happy to be here, first time seeing this amazing facility. Louisiana doesn't have any NERRS sites or National Seashores. We don't have a GEM site, but have an NEP program. I think our delegation hasn't been aggressive enough.

Susan White: You have some wonderful national wildlife refuges

Len Bahr: That's a good point. We do.

Q&A

Colleen Castille: I need to learn more about Mississippi's problems. It's a unique ecosystem, totally different from the Everglades. So it brought to mind that restoration must mean something different to each of us. So how do we get action plan together for all of us given that means different things for each state?

Len Bahr: That was the challenge in this white paper because it is dissimilar. Those are the two most ambitious programs I am aware of – this is amazing. In the Glades you're trying to keep nutrient rich water out, and we're trying to put it in. Phosphorus is a bigger issue in the Glades. The Corp. is a big player in both. We're embarking on a 50/50 partnership with the Corp. and that's why I'm encouraging them to be more active in the discussion. I'm on the hypoxia task force, and I'm convinced there's all kinds of things we can do to better manage the Mississippi River. The Corp. is very involved.

Colleen Castille: What does restoration look like in the other states?

Bill Walker: Restoration in Mississippi is trying to find an area that has changed over time and converting it to something like the function it used to have. For example there are barrier islands off the coast with natural erosion, the state purchased it and in partnership with the Corp brought it back to its 1800's foot print. Creating marsh areas, salt marsh, filling up with some dredge materials and graded it and had 200 people planting grasses.

Phil Hinesley: That's similar to what we do in Alabama. Land acquisition program, NERR acquisition grants. Lot of this property bought for \$1,000 per acre has been clear cut - So replant, do controlled burns. Section 206 and 208, create new wetland areas using materials from Corp. dredging areas. Very similar to MS in restoration efforts.

Larry McKinney: Wetland restoration mostly. We've not had lot of success on seagrass restoration. Looking for other things. With FWS we are opening up channels to restore

circulation in certain places. One thing that could be of great help is we do have a lot of sediment in channels, and beneficial use of that material is good for restoration. But Corp. has cost associated with that, and many times simply can't afford cost of business to deal with that sediment.

Len Bahr: Under fed law (the Corp.) has to use cheapest way to dispose of materials.

Larry McKinney: We're going back to USFWS or elsewhere and getting the money and then going back to the Corp.

Len Bahr: Didn't you build a lot of wetlands in the Houston Ship Channel?

Larry McKinney: Yes.

Colleen Castille: Ours is much different. Our wetland restoration is much more about getting the water quality, quantity, and timing right for our coastal estuaries. We haven't bulk headed all of our communities in coastal areas and so it's all about getting the water right, it's all from an upland perspective.

Ken Haddad: Larry's driven interest in Texas is water quantity. Water quantity, the first two topics although didn't talk about the quantity issue too much for restoration and prevention that's the biggest bang for our buck. What can we do on the ground? I could do some water quality stuff right away. I'm just curious if others share that point of view – that quality and quantify of water is the biggest bank for our buck for habitat (e.g. seagrass, wetlands.) When you talk about our wetland systems. We can build an acre here and there, but we're losing the battle.

Columbus Brown: Grant programs and NWR interest in eradication of exotics to return functionality to those systems. Louisiana has done some things

Diane Regas: Is some of the restoration work really targeted at productivity? I would assume that the productivity of fisheries across the Gulf is affected by the wetlands in Louisiana.

Len Bahr: Yes. It's something of a mystery. We've lost 1,900 square miles of our wetlands as the delta has continued to decline. But there was not good fishery data in the early days, but there is still this mystery that fishery landings have not declined as the delta declines. Scientists have two hypotheses – They say more effort to catch them, but more intriguing that as this wetland system has broken out and there are more for fish to feed on and release of organic matter released. More nutrients have been released. We keep saying the other shoe hasn't fallen. There is a connection, but it's hard. Fisheries data are really hard. Hard to have a reference site and so on.

Larry McKinney: We've been struggling with something that all states can work on, with fed partners. And I submit this is the poster child. If we can set aside parochial interests, we have two big areas – Glades and LA wetlands – that are really serious, huge issues. We could say want to focus on those two types of areas, and understand and work on. We have similar types of areas all across the Gulf. But these are two issues that can bring us national attention.

Len Bahr: I think that's a good idea, and not just for the obvious reason. Colleen's articulation of the difference b/w Glades and LCA (LA Coastal Area) shows could be a good exercise to work on these two. The idea of writing down all the types of restoration process at each state, whether it is about redistributing fresh water, it would a good exercise. By writing as restoration across the Gulf coast you have two matters that are significant. Can learn a lot. Two areas that are nationally significant.

Laura Cantral: Good follow-up

Phillip Hinesley: It would be helpful to states to know about CELP. Lets' not forget about other programs coastal estuarine restoration program these lands are purchased. If there was such a thing as an Ocean Trust Fund.

Len Bahr: I meant to talk about one of the acquisitions. One safe way to keep it from development. I would like to see that put in the white paper.

Colleen Castille: I've really been myopic, and now I'm starting to see things that we're doing in Florida that I just took for granted other states were doing. We have a 300 million annual land acquisition program that's phenomenal. We have acquired over a million acres in last 10 years and another million in the ten years before. We have 41 Aquatic Preserves around the state that protect and conserve our estuarine resources. We went through in the 80's a political fight between property rights and regulation and we finally said the best way to protect the property is to buy it. And we put our money where our mouth is. We started out with a 3 million bond for most of the 15 years in existence. In a couple years we used cash. In addition, for the Everglades we put another 100 million a year in, and I think we've done that for 5 years now, and have a commitment to do for another five years. The acquisition program is our best program for protecting wetlands. Who's with the Coastal States Organization? (Phil) I was a member of the Coastal States Organization for awhile and came to understand how important the protection of floodwaters was, and for states to assert ownership up to the ordinary mean high water mark. We've had political runs that have tried to redefine our ordinary high water line to the low mean water line. We've protected a lot of floodwaters with this definition. There is plenty of case law to protect that. With the growth we're getting ready to experience, and from a conservation standpoint, that protection is primary.

Laura Cantral: Ok, important to add to white paper the power of acquisition and mean water boundaries.

Bryon Griffith: Federal Response

Co-leads are DOI and ACOE. NOAA, EPA, CEQ, NASA, USDA, DoT, DoS on team.

White papers communicate clearly that need tremendous diversity in scale, scope and approach across the board. Not one size fits all in this arena as a consequence would stem from that a need to greater define an attack and find where we can make promises. There are three.

Proposed projects:

1. Corporate wetlands restoration partnership (EPA & ACOE): Within that smaller scale of projects on the local most level that are waiting for a local match to get them underway. Feds and states have brought as much as can to table – have done their part. This initiative stimulates private partnership. State private leadership assembles a pot of money, and local governments can apply to this fund for match. Our first partnership is in Texas. The Texas wetland partnership – with oil partners, Duke Energy and other private entities. I met with them and asked if they would take their success in Texas on the road to the other four states with the idea of a five-state comprehensive framework in 18 months, and they said yes. So we would have one place for states to go to get the local match. Why? “Developing more streamlined/seamless funding regarding wetland restoration efforts that require multiple funding sources.” Facilitate the establishment of a comprehensive five-state, regional network of Corporate Wetlands Restoration Partnership (CWRP) chapters in the Gulf region
2. Coastal Infrastructure Risk Assessment (NOAA) Assessing Risks to Energy and Chemical Transportation & Manufacturing Infrastructure. There's a near-term goal to reduce loss, and longer-term goal to have no net loss. We'd assess risk to chemical and manufacturing infrastructure along the coast and use this to guide priorities. Why? “Develop[ment] of a collaborative Gulf-coast wide effort in identifying watershed/

ecosystem based restoration and conservation priorities [is needed].” Identifying potential spill risks from coastal infrastructure as a result of land loss, natural hazards, and human activities.

3. Accurate Coastal Elevations (NOAA): continually operating reference stations along the coast – need to install more so can track coastal elevation. This proposal is to use new technology to update and keep coastal reference – so that we have continually updated coastal elevations strategy. Why? “Acceleration in sea-level rise, land subsidence, and increased storm vulnerability due to erosion and loss of barrier islands creates confounding dilemmas in managing and maintaining existing and restored wetlands and are serious challenges to restoration efforts.” Providing technical guidance and assistance as the Gulf States work to establish, coordinate, and disseminate geospatial data needed to understand and relate coastal elevation data.

Q&A

Columbus Brown: One of the questions raised in this paper was more money for grants, but at same time there was concern about the lack of match. Is his something we need to do differently to carry out your interests better? The Fish and Wildlife Service concerns I have is that many of our grants are competitive and the more partners the better you compete the more grants you get. Rookery Bay and the state of Florida received millions. What we’re seeing is other regions of the country are getting more competitive. Do you want to open that can of worms?

Larry McKinney: I’ve had the pleasure of working with Bryon. There’s one critical component that needs to be mentioned. We can’t forecast. Ask us about the CWRP. We can’t seem to be soliciting money. We cannot go out and champion that program. (It has to be) someone outside of that federal program. Once that question is asked, we cannot go out and champion that effort. In terms of restoration there are several local dimensions in each state. My point is there are different definitions of restoration across states. The more clearly you can articulate the local challenges, the more prepared the feds will be in responding in detail.

Laura Cantral: The local community workshops that kick off tomorrow – that’s an opportunity to involve the local level, get them excited about things like the corporate partnership.

Kameran Onley: Does this sound like something states want?

Colleen Castille: We would support it we’re pretty good on the matches. It would not be our number one thing, but the other states I think you would want greater match.

Bill Walker: In Mississippi, sometimes private sector would like to get involved because it’s cheaper for them. An example the casino industry is required to dredge for their barges. Right now they pay somebody to take it. It would be cheaper and easier for us to take their stuff and use it for restoration.

Phillip Hinesley: Match isn’t a big issue right now, but offshore revenue won’t last forever, so looking for different options, so yes, we would support

Kathleen Hartnett White: A number of Texas based industries have been some or our competitors. I think we’re unique with largest oil complex situated off our coast, but they’re very willing to be engaged in coastal projects, and in some ways I think they’re an asset.

Priority 4. Identification of Gulf Habitats to Inform Management led by Texas

Kathleen Hartnett White, Chairman, Texas Commission on Environmental Quality

I just want to make a couple comments about Texas that are general comments about what we're all engaged here, and then what I see as the most important part of the white paper that Bruce Moulton has put together. Couple things about Texas. One of the factors that I see putting our coastal and marine resources at greatest risk and that we are tracking with a great deal of precision, is that our population of 20 million will double in next 35 years. Much of it will be near our coast in Houston, Dallas, and San Antonio. That type of population increase and development. One way plays in directly is water quantity issues. To get to the bottom line, on the basis of existing water supply, at the point where when population has doubled to 40 million before 2050, municipalities will be as much as 30% short. Because of this we've had all kinds of activity to develop a strategy to meet that demand. Thanks to this it makes fresh water inflow into our estuaries a very concern. We've been grappling with how to secure for present and future adequate fresh-water inflows. There was discussion of law to alter the way we administer and allocate water rights in Texas. That is key and will remain key in Texas to protecting our bay and estuary resources.

Another issue I didn't hear – and maybe I missed it when down at the press conference -- that I think is a Texas interest is a health and safety issue of toxins in fish tissue. We're seeing more and a regional effort to address health and safety issues is key. That a regional effort address any health and safety issues. Jim brought to our attention that the economic sustaining productivity of our coastal and marine resources must go hand and hand and is a pre-condition to what enables us and gives the luxury of addressing this issue. The paper that Bruce Moulton will give to you – a theme of data gaps the most essential is data integration. There are all kinds of ways to talk about this. "We're drowning in data, but parched for information." How make it accessible and meaningful to the wide range of people who should see it? Every year there is a new technology, but how do you integrate that and make it available is the challenge. We can't just refine our methods of gathering, but we are blessed with the amount of data, we need to figure out how to analyze and integrate this data. Introduces Bruce Moulton.

Bruce Moulton, Policy Advisor, TX Commission on Environmental Quality

A lot of the common threads are identified in this paper.

Problem Statement: To better manage coastal habitats, it is necessary that the states begin laying the groundwork for improved ecosystem-based management. In order to do so, each state must identify and characterize the types and extent of habitats that exist in their coastal waters. In order to do good habitat management, we need to take next step and do ecosystem management. Got to integrate fisheries management, wetland management, etc. Must take next step in identifying and characterizing types of habitats that exist in our coastal waters. A lot of states are looking at emergent habitats, also need to look at offshore/marine habitats. We've been looking at a holistic approach to that.

Strengths: Every state has a natural resource agency. In the case of Texas, we have seven resource agencies and we have an agency that integrates. There's some coordination via the CZM program's Coastal Coordination Council, that's one way of integrating at state and local basis. The fed partnerships are essential. The GEMS (Gulf Ecological Management sites) program is all five Gulf States. Essentially looking at ecologically significant sites, developing info. about, and looking at from the standpoint of how achieve goals of GOMP. The NEPs, NERRs, National Marine Sanctuaries. I mentioned the Coastal Management Program. Think Phil will talk about CZM program. For some reason CMP did not crop up a lot it gets all the

states together and discusses the issues common to all our state agencies. Assessment tools do not come without a price. New technologies crop up every day. We need to look into it, invest in it and the training. There are old dogs out there like myself. The training, there are old dogs out there a he (Len) and I have been at this for 30 years. We are lacking detailed offshore maps. Each state has launched off into looking at coastal natural resource areas, but every 5 to 10 years they're outdated due to the growth in the coastal area. We need to inventory the existing habitat data, determine if in useable form, available, and can we use it on a Gulf-wide basis. In Texas we have a lot of databases. Has anybody inventoried them and asked if it can be used as a uniform single database on a Gulf wide basis.

Opportunities and Solutions:

All of the plans recommend that additional steps be taken. One thing to look at is to develop additional partnerships to obtain additional funding sources. All states go through budget cuts. Feds are probably going through the same thing. Best thing we can do is look at how can partner those to use programs together to get maximum for our dollars. One program is the Coastal Estuarine Lands C. - Directed at land acquisition in coastal areas. That was one Kacky mentioned in the conference call. She may know more about it, but I believe it's targeted at specific projects around the U.S.

Mitigation is a strategy we can use to restore lost marine habitats. If someone violates laws, we can fine them. They can also reduce those fines if they agree to do certain environmental projects in the area that was damaged. We need a unified approach to reduce the cost of those efforts.

Standardized mapping techniques, frequencies and reporting methodologies. A unified approach would reduce cost.

Develop state programs to evaluate restoration and conservation activities, to research and identify gaps. No one has collated data. Identify gaps. I've heard that mentioned several times. We do have a lot of data but nobody's pulled together to identify gaps. High resolution bathymetry for looking at marine habitats.

Gulf coast states need to critically evaluate their coastal development laws and regulations and have them evolve to look at management of our coastal resources.

Priority needs:

1. Increase Gulf coast states' competitiveness and success in the federal grant process. Kameran talked about match. Lots of money out there, but comes with strings that need non-federal match. That's one reason we have Texas private company partnership-the coastal restoration program.
2. Share data and other information collected by state and federal data programs. We have lots of data, don't know if compatible. Examine info. available. Identify data gaps and look at best technology out there and bring those into play for managing coastal resources. There needs to be an approved interaction. I'm comforted to see the policy folks here today. I've been sitting around the table with great scientists – we understand the issue – then when we take it to the policy makers and decision makers – I'm not saying they don't know what we

are doing, but if I go to our Governor and suggest that our oysters in Galveston Bay in a certain area and say he could die if he eats it - he gets it. But if I tell him we are tracking bacterial data he doesn't get it. We need to articulate and translate the science and get it to the decision makers. Another key message is that investment means benefit, and it means benefit beyond just the coast. A healthy Gulf of Mexico is an investment, and a worldwide benefit to the people.

3. Use best available technologies

Q&A

Len Bahr: I thought Texas A&M was way ahead of us on bathymetry and elevation and puts our state to shame.

Bruce Moulton: Let me clarify. A host of folks worked on these white papers. This reflects not just Texas's view or position, but the other four states as well. This was one of the common themes, that we don't have good bathymetry. I don't think we've got good bathymetry offshore, anyway.

Larry McKinney: We do compared to Louisiana, but not...

Len Bahr: we still have data from dropping lead weights overboard...

Colleen Castille: One thing in this is the US coral Reef Task force and it's really comprehensive. At the press conference I was asked, "is the political will there to implement some of our recommendations." Let me give a hint of this. In Australia, the Great Barrier Reef management program spent considerable time figuring out what impacted the reef and how many communities impacted it. In the state of Queensland, they tried to gather as much data as they could and it was politically charged going in. They used the bathymetric data, asked every scientist to provide them with information. Then said we have the best science and best community input. Ultimately they set up a system to get feedback. They got 20,000 pieces of feedback on this map. Then they said they had best map, with lots of community input. They said wanted to protect reef *and* traditional communities around reef. They came out with a map. Identified traditional areas and allowed fishing to continue there. But then took five other examples of the same habitat and protected. But what they were able to do was provide for sustainable plan for the waters off their coast. Now that they've gone through this, they have come to understand the importance of upland areas, and now they're doing more mapping for this area. I understand for some this sounds like Big Brother. But we're talking about a sustainable environment for people and for animals. People were excited last night.

I don't want us to go away without some actionable items. Look at the data we have, choose from these things and take away some meaty action items.

Kathleen Hartnett White: Why not data gaps? What are key data gaps and what might be a viable and meaningful step on data integration?

Colleen Castille: I think that's a great suggestion. We're dealing with the absolute dregs of discussions on data, with total maximum data loads and how we gather the data, and then how to set system of regulations in accordance with that data. And it has to be defensible because somebody will take us into court. We see we have significant data gaps, and that's our weakness in this program. Our foundation has to be that data gap. I'm with you on the data. We have the Integrated Ocean Observing System. I've sat in a room of scientists saying they don't trust data quality, who's inputting, what are the gaps, and what is the quality of the data we're going to get? Maybe it's non-controversial, but it's the foundation. We need to be deciding what info. we want and move forward with what we want.

Bruce Moulton: I'm going to stick my neck out here because I worked with Dan Farrow. We went through a process on shellfish health in the Gulf of Mexico. We looked at the gaps. It was one of the best processes I've ever been involved with. A similar process could be implemented with this to get this thing off and running. I really think we could identify some short-term tasks for the next year or two.

Jack Hayes: IOOS and G-COOS. Four of the six in Bruce's talk deal with integrating observations. There is an entity – Ocean US – that's working with us to integrate the ocean observing system. I've been having several of these discussions. DMAC. Data Management and Communications. When you invest in upgrading systems, you're making it easier for us. We're trying to do this, and support us, because it's a strategic investment.

Colleen Castille: Is it just offshore data?

Jack Hayes: It's coastal and offshore.

Len Bahr: Our Governor suggested adding "coastal" explicitly in the title, makes it easier to sell.

Margaret Davidson: This is part of an international effort, and the acronym is internationally known, and our international colleagues are more comfortable with idea that Ocean covers near shore too. We have to work with this.

Bruce Moulton: There is also DITSY - data and information transfer system pulls all the resource information agencies together under the GOMP hat and talks about this. Great concept, but problem is we don't have the resources to send our people over there. Larry, I think you can speak to the same thing. These people have to focus on their program areas and don't have money to travel

Kacky Andrews: Let me do the coastal managers' whine about IOOS. I keep being told it's going to be in the near shore, but it seems as if folks in control see near shore as 50 miles out.

Margaret Davidson: USF observing is largely in Tampa Bay and the WAVE system runs from inshore of offshore. Yes, there are a lot of problems, and we're trying to fix it, and take comfort Kacky, there's the coastal manager whine and the floodplain manager whine...Every group wines about how it doesn't serve everybody. Building to serve many purposes is a hard thing to do, and we're working on it. I keep saying "it's about the brown water."

Phillip Hinesley: One of the problems is feds and states all doing different things, and nobody is coordinating. If somebody could just coordinate all these observing efforts, that would be a great thing.

Carlos del Castillo: Essentially, we have to speak the same language...

Jack Hayes: That's a necessary first step. We are trying to speak a shared language. Trying to coordinate. Prerequisite is DMAC that allows us to interoperate.

David Guggenheim: As one who's been involved at more of a bird's eye view, the idea of bridging the gap between science and policy is a common theme. Bruce said it well. My PhD is in policy and science, and I learned they don't get along well. Yet at a practical level science helps to lead the way, so that policy can come in and lead to protections. But it's critical to get the two together. Science informs policy. And policy efforts can direct scientists to areas where research is needed, where profound questions remain. Yet there's still frustration that those ties aren't strong enough. So the question I have, this seems like a common issue across states, how can we bridge that gap? Is there an institutional structure that's missing?

Bryon Griffith: The birth of my occupational tie to the government was in occupational delivery and engineering systems. What I haven't heard is "what will you do with it?" What is

the application – what is the information that is delivered to the problem. Right now, two worlds going on in parallel. Have a lot of data. You see gaps - gaps is an enormous universe. The region has the opportunity to define - to guide IOOS - a decision support framework, an application framework. Can lead the country. But will come in defining the endpoint. We need the end goal, and that will take you back to identifying the gaps and then the monitoring that needs to go on to fill those gaps. The next challenge is to define that application framework. You will see diffusion faster than other topic.

Colleen Castille: So what will it be used for?

Kacky Andrews: I have a good example. LIDAR showed some clear gaps in coral reefs in Southeast Florida. Took to Governor, and used map to have fiber optic cables go through the gaps in the reefs rather than crossing the reef. After knowing what's there, we know what we are managing.

Gary Lytton: I think I heard from NOAA that 80% of the land use decisions that impact coastal resources are made on the local level. So while state folks need access to data and information, the local level must have access to this information as well. We must engage the local level, both private and public. It's the county commission and land use planners who need access to this information and who are having the most influence and impacts.

Bruce Moulton: Our strategy is using Lydar and other technology. Texas has done a great job of building sediment traps – we have two natural lakes the rest are all manmade. We put them down in our river basins. We're watching our barrier island move all over the place. We can target those areas to restore them. It is a very high priority program in Texas.

Laura Cantral: Other states?

Larry McKinney: I just want to echo that. Simple base maps. We have lots of data but what we don't have is regular mapping, LIDAR or whatever, from over flights - every couple years.

Jeff Lillycrop: We're surveying the coast every five years. We fly the coast and we did Mississippi, Alabama, Florida, Georgia, and South Carolina this year. We did Florida and Alabama twice (because of) after hurricanes. All that data is available through CSC's website. There are things going on, but unfortunately just not really well known at this point.

Kameran Onley: I'm an economist, not a scientist. Seems we're talking about multiple maps. It's all different things right? I'm worried that maybe we're not all talking about the same thing with IOOS?

Margaret Davidson: There's an USOAP item for integrated mapping that's co-led by USGS and NOAA, and one of the first thing we're trying to do is get the roster of ongoing mapping efforts. There are some collaborative efforts. Metaphor for what we could do. One of the first things we can do is for next meeting of this group is to bring back a catalogue of all the mapping. And we can look at where we need to accelerate these efforts. And these people don't just want data, they want integrated maps, layers.

Laura Cantral: Need to understand better the resources and how they can be tasked with accessing it.

Dr. Bryon Griffith, Federal Response

Almost everyone at table here has something to offer. Question is what, where, and why. Really challenge back to states is the next stage of resolution. All of these fronts will not be run on simultaneously. If they were it would become a very lengthy exercise. Can you define where those gaps be closed, those products produced. And the type of decision-support structure you see over all of it.

Co-leads are DoI and NASA and tech support is CEQ, EPA, NOAA, ACOE, DoE, DoS, DoT. We have the benefit of NASA coming in early and proposing the idea that's in your book.

1. Regional Coordination of Habitat ID Efforts (NASA). Why? "Many of the Gulf coast states feel as if they are managing their submerged aquatic resources using very sparse data and information." Increasing collaboration between Federal and state agencies to leverage existing resources and expertise for addressing habitat identification available at the NASA Stennis Space Center in Mississippi.
2. Biogeographic Assessments (NOAA). Why? "... *detailed maps of marine habitat types, locations, and uses are still lacking, making management difficult* ..." Florida Mapping Project: NOAA will map shallow-water coral ecosystems of southern Florida using a suite of technologies and map development procedures. LIDAR Topographic / Bathymetric Data Acquisition and Processing: Airborne topo. and bathy LIDAR data will be collected in the Pensacola, Florida area in spring 2005. Airborne gravimetric data will be collected for the entire GoMex region to support vertical data transformations. CCAP Program: Further incorporation of Gulf States into Coastal Change Analysis Program

He has been at NASA eight months and came out of the Navy Oceanographic office. We are the organization that addressed many of the collection of the problems on a global basis. Usually Dod needed to do it on a remote basis. What saved us was that we could do it in small and precise areas. We had to send out ships to do in situ operations observations tens of years before Dod did anything at all in that region.

Carlos del Castillo: We have lot to offer, but we're a R&D shop so we have to operate within those constraints. Most is driven by research needs, not the needs of managers. We need to find way to make our data available and useful to community. We have the applied research at Stennis Space Center. We are beginning to explore ways of moving this wealth of research data into use. NASA funds HAB research. We had a meeting in Florida with a bunch of researchers about satellite images, showing blooms from space. We were talking about how couldn't tell difference b/w harmful bloom and natural bloom. But this man from Texas was thrilled with just the picture because it told him where *didn't* have to sample. It saved him lots of money. So you need to tell us what you need. We were told not to come to table with a catalogue. But I think a catalogue is needed. I've heard people asking questions about things that I know are available today. I sit down at a computer and I don't know what you are doing. We need to get the user community to help us. I think it would be helpful for us to look at the white paper and build a catalogue of useful sources, useful private investigators.

Jack Hayes: NASA and NOAA have partnership. We can play a role if want on team. Margaret has already given my talk. We were focusing on laying the background for ecosystem based management. What I got out of paper was wanting to characterize habitats. There are three projects working on this. Coral project off FL, JABELTEX(?), Coastal Change Analysis Program (C-CAP).

Q&A

Colleen Castille: – Taking into account what everybody said. I look at – one ecosystem – it is a big watershed. This is what we know about the everglades. I know how much land mass I have. Think about for whole Gulf. I know how much land left because we developed 2 and a half

million acres of the 4 million acres we had. So I need to go back and recreate some wetlands. Then we need to go in and create reservoirs so can hold back water when don't want it. We know how much saw grass we've got to recreate or restore. We know how much of the coastal seagrasses need to restore to bring back health of Florida Bay. We have benchmarks of birds and bugs and fish and the whole food chain that we want back. First of all we have to get them back in greater numbers. So now I take that whole system and if I were coming to our Governors and our group of federal partners, and I would say, I know how much fresh water needs to go into the system because I know what we pump out. I know how much seagrass we need to bring back because I know how much we've lost. I know there's a quality of water that needs to go in. So with all that I would say there's a coastal habitat map. So with the knowledge that that's what I need, what's out there that can come to table to help managers at state and local level make decisions about what to work on? That's a huge question. How's your catalogue Carlos? So what do we need?

Carlos del Castillo: We don't know the resolution that you need, spatial and temporal. I understand your question, but the level of detail of the answer will vary depending on who's making the decision.

Ken Haddad: I'm going to wear two hats. Typically from science side is that we need a whole bunch more data, and then from management side, I would say that very rarely do I or other managers articulate our needs very well at all. Ask a big general question and will never get an answer. We as managers need to figure out how to articulate our needs not just today but in the future. You need the info. now but it will take ten years to answer the question. But from a practical standpoint, there's a heck of a lot of data there. And the data integration still hinges on policy-makers asking the right questions. One of the biggest failures is to ask the right question. If we ask the right question, we can have that data and have it packaged and useful, in a fairly short time.

Colleen Castille: So what's the question Ken? Am I in the right realm of the question I'm supposed to be asking?

Ken Haddad: We tend to focus on science or policy, but in between is the integration and packaging of information, and we have to focus on that so we press a button and it's on your desktop.

Kathleen Hartnett White: What kind of data do you have that can guide my implement this plan (i.e. Everglades)? Just take one component such as seagrass – what kind of info can show if we're having an impact?

Diane Regas: I think the point of that being a management issue is very important, the point of this being a management issue the crux of our challenge is for managers to answer the questions. Of managers being able to answer the question of "what do we want?" We want healthy beaches so what information can help us know we are accomplishing that? If we identify what we want, then scientists can help us see the current status, can help us model and have the visualization of those things and what happens under different scenarios. One place this is happening is the Chesapeake Bay. People have identified that they want rockfish here, and oysters here, and specific ideas about dissolved oxygen. Science is informing them. But it really is the managers setting the goals.

Kathleen Hartnett White: I think that's the crux of what we have to decide today. What is it we want the Gulf to look like? We need to decide that before we get the data.

Diane Regas: Maybe not the whole Gulf, but how do we want the hypoxic zone to look? And how do we want fisheries to look? Hasn't been brought together as single vision for Gulf.

Kathleen Hartnett White: Isn't that our purpose today?

Laura Cantral: process note about needing break...

Bryon Griffith: A quick case study. In the HAB observing system case study, the five health department leads in the Gulf came together and said they wanted to detect, track, and predict HABs. That galvanized action by federal and state and local players. An array so big I can't remember the list. It was an exercise guided by what the health department would do to data stream, deliver in a visualized form to make decisions. Had to synthesize data, QA/QC it, make it visual. Good news is the next issue can use 70% of the same underlying infrastructure. IOOS will be built application by application. And you have the opportunity to identify the application framework.

Larry McKinney: Different players will require different data...

Jim Giattina: Resist the urge to think there's only one system that's going to answer all the questions. If look at all issues from today, everyone has strategy at some level for dealing with these. We know how to proceed. Again, I hate to say it, but you got to look back to your plan, and for a system to support that plan and the need to identify what data is needed at every stage of that plan. That's just a lot of hard work. Once work through that will start to see that there are some data that transcend all of these issues, so can get some economies of scale, but you're always going to have to tailor data or decision support system to issue trying to solve. Don't assume there's one system that can do it all. There's a lot of hard work to be done.

Laura Cantral: You have all put in a lot of hard work.

Priority 5. Gulf of Mexico Environmental Education

Phillip Hinesley, Coastal Section Chief, Alabama Department of Conservation and Natural Resources; Chair of the Coastal States Organization

I'm going to be brief. Through the CZMA, we've got the CZM programs, and the NERRs, and great things happen here. But we've also got the estuary programs. And we can't forget about SeaGrant programs. And other programs that do K-12. But there are challenges. Always funding challenges. Back in the 90's we had the year of the Gulf of Mexico, and it was a good thing. Sometimes we don't do a good job blowing our own horn. We have a huge influx of folks coming into the coast. And that's a real challenge. And one of our challenges in Alabama is a lack of funding for K-12. I want to thank the state of Florida for having us, and CEQ for bringing all the fed partners together. I think we're getting there. I have to thank Amy King and all my staff who helped with this paper.

Laura Cantral: our host wants to encourage you to stick around for some beer and wine afterwards.

Amy King, Public Education & Outreach Coordinator, Alabama Department of Conservation and Natural Resources

Thank you to the states who helped with this education paper. I want to thank states for helping us tame such a mammoth concept. I literally wondered where to start – formal K-12, or informal via NGO's, etc. But through the coordination with the states we were able to find common ground - the strengths, weaknesses, and needs.

Environmental education has roots in science but application in socioeconomics. The coastal environment is being impacted by stressors caused by massive (population) growth.

Problem Statement/Goal:

Environmental education is hindered by two factors:

1. Disparity between coastal states' capabilities and subsequent funding. Each state has different amounts of coastline, which results in different educational opportunities for each state.
2. Overall decline in science literacy in both the professional and public arenas.

Environmental education through Gulf has three goals. To address that mission are several formal and informal mechanisms to implement.

Strengths:

1. Every county has an extension office providing adult education,
2. have experienced, qualified, interested, dedicated natural resource staff in education positions,
3. Numerous partnerships with a variety of agencies that are essential to provide resources,
4. Numerous, interactive programs that incorporate the human element to make the human connection. Must develop a "sense of place" or connection to generate proactive attitude.
5. Media services are increasing public awareness,
6. Professional development opportunities are available – especially on technical topics,
7. Web based programs provide a new conduit of educational opportunities – new form of information distribution that has exploded in the last ten years. We've transformed it from a privilege to a necessity.
8. The Southern Association of Marine Educators and the Southern Association of Marine Laboratories are among the oldest and most active of the national affiliates and are well-established,
9. High amount of volunteerism – backbone of many environmental education programs.

With every strength there are associated challenges. I live by lists...

Challenges:

1. Budget reductions – Under the coastal states capabilities there will be budget cut constraints. It happens at varying levels – federal, state, local. Education will be affected when there is a budget cut. In response more partnerships have been developed, but these aren't doing more with less, they're doing more with nothing. Difficult task to deal with lack of funds, lack of personnel and (still) break down complex concepts into understandable pieces.
2. 'Environmental Education' is an umbrella for numerous environmental issues. Difficult to prioritize the topics and tasks under environmental education. Also the task of breaking down complex concepts for easy understanding.
1. Redundancy due to lack of coordination. Also a lack of coordination because (states) have similar programs and different places.
2. Inability to assign credible economic value to environmental assets. Difficult to assign a dollar value to green infrastructure. Difficult to assign credible cost benefits to these.
3. Environmental literacy challenges:
 - Pressures on formal classroom educators leave little time to enable them to incorporate existing resources into daily lesson plans. Teachers have to teach to standards – so any materials we provide must work for those standards

- Diverse environmental education involves a variety of earth sciences, and these are often not done consistently across the grade levels or integrated across curriculum.
 - Constant testing has forced teachers to reduce the amount of time they spend on experiential learning and more on “teaching for the test” for improved scores. Normal connection between learning from book and actually seeing in the environment isn’t being made. Don’t develop the sense of place without this link. Connections are lost because of the loss of experiences, this changes into a behavior change.
 - Growing price of fuel will soon force schools to reduce fieldtrips.
4. Lack of support from leaders and administrators for any number of reasons. They focus on economic growth. It’s difficult to resist the conversion of natural habitat to human habitat. Decision-makers make decisions without examining the ecological consequences, which means it’s difficult to provide effective environmental education.
 5. Existing educational gap with areas further upstream. Those areas don’t understand their impact on the Gulf.
 6. Social, economic, and cultural barriers. Can inhibit an individual’s access, and desire to have access, to environmental education.
 7. Advertising is too expensive for grassroots organizations. PSAs for TV or radio is simply not an option for many local programs.

Needs:

1. Utilize, support, and expand upon existing programs.
2. Establish long-term sustainable funding.
3. Establish partnerships. Also with private industry when that option is available.
4. Encourage integrated education inside and outside the classroom and through the media. For example, I know one computer science teacher who when teaching his database class, will have his students catalogue plants and animals. Another suggestion is having local weather report include an environmental fact.
5. Encourage environmental awareness as an integral part of community development. Once can integrate environment as part of a good quality of life, can raise awareness.
6. Continue to invite politicians to be involved on local levels to see the good things flowing from existing environmental education programs and encourage support from legislature.
7. Continue and strengthen coastal public outreach task forces and ask why you are doing this to reduce redundancy.
8. Continue and enhance workshops and trainings that provide relevant environmental resources to participants– increase frequency
9. Implement economic valuation studies in targeted representative areas along the Gulf Coast. To demonstrate the value of maintaining natural resources. This is one way we can help to define that knowledge and present in a way that can help folks making decisions at the local level. We need to speak in terms of economics to gain support on the local level.

Q&A

Laura Cantral: This was one of the most compelling issues that the chair of Ocean Commission love to talk about.

Columbus Brown: To what extent have the states gone to their departments of education to make sure the exercises and experiential learning match up with each other's dept of education requirements?

Amy King: Most of that is done on a state by state basis. I know in Alabama there's frequent revisiting of the curriculum. We try to get environmental education at various levels. We've had to prioritize. But it's not consistent across grade levels. And one type of science may get more attention than others.

Phillip Hinesley: I want to emphasize this paper is a work in progress

Gary Lytton: My perspective is that the lack of awareness of the issues in the Gulf is perhaps the most direct challenge we have. To echo the Ocean commission if we are looking for action items for the Gulf, I think it would be a huge mistake to overlook education. I also suggest thinking about two strategies. Education for K-12 is a long-term strategy that helps them embrace value, but we cannot afford to step back from the challenge to train decision-makers to meet their needs on the ground. We need to train the decision-makers right now, and have a long-term strategy for K-12.

Bryon Griffith: The question about coordination is highly variable. On coordinating with state departments of education, I had the pleasure of serving as a school board president on western side of Mississippi while Bill Walker was president of the school board on the eastern side. Can anyone guess what the average life-in-the-classroom is for a teacher from post graduation? Less than five years. Here in Naples you probably have a fairly stable teacher force, but in Mississippi the opposite is true. The idea of field experience is eclipsed by keeping teachers in the classroom. Magnify that one step forward when you lose a science teacher - it's the hardest position to fill. The real take home message here in the real world is there must be other avenues sought [beyond schools] to bring environmental education to the primary and secondary level students in the classroom.

Ken Haddad: I was in a doctor's office, waiting, and I was thinking about this meeting and reading a National Geographic article on Chesapeake Bay and it had statement that got me thinking and I had to write it down. Tom Horton (said), "Public support is like the estuary itself - impressively broad but deceptively shallow." That's saying something right there. We've had K-12 programs throughout the U.S. for 30 years. I'm wondering if the education side has ever followed up to see if (our students) vigorously support environmental issues. There seems to be a miraculous transformation between age 25 to 35 from people being supportive to being visibly supportive but deceptively shallow. When we start to think about action it gets to this end result when we educate K-12. Certainly the grassroots local is where you really capture people to be part of the process. The Chesapeake Bay would be an example. How do you urge the deceptively shallow which is this third layer of education to just get people on our side with this issue. What are we accomplishing with K-12? Maybe there's a third level? Don't have to capture folks totally, just get them on our side.

Greg Ruark: There's also a general decline or lack of literacy among scientists to communicate the importance of what we do. We don't do a good job of identifying why this is important to the general public. We need to translate this into meaningful and compelling reasons why should do. I know we talked about educating decision-makers but in some cases it is the farmers or land owners that need to be educated. We need to be able to reach out to those communities.

Lynne Martin: Who else do we need to educate, including ourselves, and the personal decisions we make? A lot of states talked about anticipating high rates of development. I think there's an initiative for getting developers to think more green and not the same old things. I had

an acquaintance who was retiring, and she wanted to find environmentally friendly developers. People are looking for information. I see brochures about how the average homeowner can deal with Brazilian pepper. And it's not K-12. It's an investment choice. I did some landscaping and in trying to design with nature, my landscaper asked about a rain garden? The landscaping industry – it's not exactly a wetland, but they're trying to do more working with water flows. Engineers could use more design guidance. The Corp could use some better environmental design guidelines. In getting into some ecosystem restoration, contractors park vehicles on sensitive root systems – just moving the vehicles over can help or build something for them to park them on. I don't want to negate the needs of educating K-12 by any means, but I also want to think about how to engage these other decision-makers.

David Guggenheim: This is an issue near and dear to my heart. Two quick points. One is that the society that is increasingly out of touch with its natural environment is already having an impact. We ran programs for 5th/6th graders I had teachers who were afraid to be outside here in Collier County. We're already losing folks in terms of their ability to deal with the natural environment, let alone their ability to impart it to kids. The second point – and maybe I missed it – education and outreach to minority children. This has been another focus in these efforts. Photo I showed this morning of Jimsee, it was a partnership between Jane Goodall and NAACP and was part of a program that brought some minority kids that grew up in Naples to the beach for the very first time. We have cultural issues that keep these kids away from the resources. We have some barriers there. And that's a factor we should consider, particularly as demographics are changing.

Bryon Griffith and Jack Hayes, Federal Response

Co-leads are NOAA & EPA. Every single department indicated has something to offer. We all do have something, but what does it all add up to. Does it coordinate? What's the specific outcome? Hard to know how these efforts go together since they have been constructed under very different frameworks. They've been developed in isolation, yet are similarities. Lots of grist to bring to bear.

We've all had experience in delivery of education programs – good, bad, indifferent. My perspective on one of the most important aspects - What goes first (when education budgets are cut)? Music and art goes first. Since they are not tested they are the first to cut. When the state budget is cut what is the first to get cut? Education. But one of the important aspects is, what happens when budget in education is cut? Music and art. Why? Because in the performance structure, they're not tested on music and art. On the federal level, what gets cut when budgets cut? Education and training. Why? Not part of performance structure. And then when a school district re-implements an education program, how long does it take to re-establish? (a long time) Very similar on federal side. So you have this gap between acceptance, delivery and role out. One thing as you look at the landscape is the delivery point – the where. Where would you expect delivery of these goods? Sounds relatively simple, but it's huge. In Gary's slides at lunch, you saw the dots for NEP's, NERR's, start to make up the landscape of the Gulf coast a series of footprints that are not so volatile that is found with the federal government. What that translates to me is a series of footprints that are possible delivery points.

Proposed projects:

1. (CELC) Coastal Ecosystem Learning Center framework (EPA): Within the Coastal America framework. The place that houses the programs. CELC framework was put together in early days of Coastal America. Three in Gulf coast region – Texas State Aquarium, Florida Aquarium, and Dauphin Island Sea Lab in Alabama. Proposal is to finish the suite of at least one of these, and then imagine it paired with Gary's slide – expand the CELC to be five-state comprehensive by going after the J.L. Scott center in Mississippi, and the Audubon Aquarium of the Americas in NOLA. But to expand that one step further, through the Gulf States Accord, to actually negotiate to include a representative link to the Vera Cruz Aquarium. To establish the first bi-national structure in that system of aquariums. A blueprint for points for delivery.

What I took out of the paper were environmental awareness and science literacy.

2. Campaign for the Gulf (NOAA): A campaign for the Gulf of Mexico to make people aware of what they can do and what we have done in this. Suite of projects focused on:
 - a. Making people aware of problems in Gulf,
 - b. How state and fed officials addressing, and
 - c. Telling folks how they can contribute. Not just for K-12, but for all decision makers.
3. Gulf Educational Summit. Workshop would provide sources, materials for creating a K-12 curriculum. Would start with one day and bring together educators, the community would send a representative and the workshop would provide materials, sources, and provide K-12 materials and then they would go back to their home communities and set up networks. If found successful, could do on a recurring basis.

Q&A

Laura Cantral: I'll ask Kameran's questions. Does this sound like something you're interested in?

Bob Ferguson: I think those of us who've grown up here, last thing we do is communicate to others about what we care about. I think perhaps it should be first priority. We've heard that a lot. And priority is universal. When someone tells me they don't have time to do something, then I know it's not a priority. And why? Maybe it's not important to them. If we want people to think it's important, then we have to build the awareness. It is something we just have to take on and say we have to dedicate some of our time. It has to be a priority for us because things fall out from that. When we want to get the attention of private enterprise, have to have a proposal that makes sense and you have to produce. I would support these things being high on priority list, not last.

Larry McKinney: That awareness/appreciation thing is something can't accomplish. I can tell you in terms of developing K-12 curriculum for Gulf of Mexico, you're wasting your time. Anytime you say going to develop a curriculum, be cautious. But you can build awareness and appreciation.

Gary Lytton: I think the learning center framework is a good idea, especially if can lay over the NEP's and NERR's frameworks. Don't limit it just to programs with facilities. Programs may have partners with good networks and those networks can provide facilities. One thing is delivery, but other is gathering input. I'd love to get sites in the Gulf thinking about being not just for information delivery, but also for information gathering. For being local points of input-gathering.

Bryon talked about losing science teachers. I think we can do something about this. Teachers here are under tremendous stress with testing requirements, but we can get teachers excited and involved in ways we're not doing now. We have the ability to deliver experiences, on the water experiences, and when teachers get energized, they pass that on, and they might stay in their jobs.

Margaret Davidson: I speak on behalf of my colleagues at NSF who has funded some centers for ocean science education excellence, seven, for three quarters of a million and two pertain to the Gulf. One is COSEE (sp?). Work on curriculum standards, and in increasing capacity of teachers. Need to build on these existing efforts that are well-funded.

Columbus Brown: The sport fish restoration act the state manages is a funding stream that is available. Also we should expand that list of platforms where people can learn about habitats to fish and wildlife platforms.

Colleen Castille: As much as I love the idea of educational pamphlets, part of my background is in education and our template helped create No Child Left Behind. We have standards in each state are developing standards. We have incorporated science into our standards, things kids should know and be able to do, and those elements have to be geared to the state standards and those materials have to be geared to the standards so I don't think we can implement that. I'm not sure we can tailor to all the different standards. The CELC idea is better, and we have a foundation for it.

Bob Bosenberg: When do joint project, we have to write a contract between Corp, it includes an education component. That's a tremendous opportunity to put in standards. But I would caution that measuring education and outreach is very tricky, but don't give up on it.

Wrap-up Discussion

Laura Cantral: we've heard about Gulf of Mexico Accord and I'm going to ask Gary to talk...

Gary Springer, Secretary-General, Gulf of Mexico States Accord

I want to speak for a minute about the perspectives from Mexico and how the Accord fits into what we are doing here. I'm going to add one thing to education, please, please don't forget to educate the media. If we don't make things like education important to the media, then we will get lousy reporting.

Thank you for giving the Gulf of Mexico States Accord, and her sister organization the Gulf of Mexico States Partnership, an opportunity to be here to listen today. And I'm going to say wow, and amazing and exciting and please don't stop now.

In my presentation on the international side of it wait until we see what can happen when we bring the Mexican federal government and states into it. Let me throw out some numbers. Two are states and two are business. 75 – 10 and 5.

- 75 U.S. Congressmen in five Gulf state
- 10 U.S. Senators
- 5 Governors. When you add that up, it is meaningful to all of us in this process.
- 7 of the 11 busiest ports in the U.S. are in the Gulf of Mexico. Important for folks in D.C. to know.
- 20% of imported energy in the U.S. comes in through the Gulf.
- Well over 60% of the US oil and gas reserves are found in the Gulf.

- That's 10 times the Great Lakes and Chesapeake Bay region, but,
- These regions get 10 times the amount of funding for regional environmental programs than the Gulf of Mexico, even though
- The Gulf is 200 times the size of any of those other basins.

That is what we do for a living (and it) is made up of the eleven border states and it means goods, services and the people pass through them. The 11 Governors run that accord through the presidency of Kathleen Blanco. The Gulf States Partnership is the counterpart where the private sector does advocacy and research. Bryon calls this synchronicity. There are some things outside this process – several initiatives going on to consider. Louisiana Governor Kathleen Blanco has taken over presidency of Accord and is likely to hold that position for next two years. This is important for bringing together the Mexican side. The U.S. Government has just funded phase one of a trade and transportation study. This alliance is moving forward much faster than anyone would have imagined. Last week, the governors signed a declaration that was encouraged by Governor Blanco and it underpins this process because by the time we help you to move it to their side of the Gulf it will be there idea and then it will go faster. Pemex runs the Mexican petrochemical industry and they are important to Texas and they are also a big market for environmental services for rest of our states. Finally, there will be a subcommittee on environments - Gulf of Mexico Congressional Caucus on environmental stewardship. Democrats and Republicans have come together on stuff they really can't argue about plus we need our share of funding. Tools we've developed. Governors Blanco and Bush are openly supportive of this process. Plus David and Kacky, building this bridge –thank you. Blanco has taken to Mexican governors and said this is a priority of her presidency of the Accord. First HAB seminar – was first time Mexican partners arrived a year ago. It was so wild, there were people arriving from the Baja – over by California. Our Congressional Caucus recently asked the EPA why the Great Lakes and Chesapeake Bay get 10 times the funding for their regional programs and we're looking forward to receiving back the answer to that question. This should be the basis of a good deal of discussion, and perhaps action. The Mexican governors will be involved pretty quickly with some of the things that have happened recently I have to have a meeting with all the states. I think they'll be amenable to that. Finally, the transportation study. And the Security and Prosperity Partnership (NAFTA2) – talks about joint stewardship of our environment by emphasizing an ecosystem approach, MPA networks, and improving fisheries. We have to come up with strategies for implementing.

Blanco's initiatives are

1. Strong support for Gulf environmental initiative
 - Create a mutually beneficial policy framework for sustainable bilateral economic development in the Gulf of Mexico border.
 - Provide the supporting environmental assessment that will provide the essential baselines and measures necessary to support strategically integrated and sustainable future economic development in coastal areas of the Gulf.
2. GUMP Transportation Study on logistics and putting in an infrastructure –
 - Transportation, infrastructure market study
 - Port security benchmarking & standards
 - Environmental stewardship
3. She will be calling the Governors' Summit Accord to recommit all 11 to process.

4. And she wants to develop a trade Mission focused on energy and the environment.

He posted Declaration of Coatzacoalcos, June 4. It said:

- “We, the Governors of the Mexican States with a border on the Gulf of Mexico have gathered here in Coatzacoalcos, Veracruz to reaffirm our commitment to work collaboratively to preserve our common national patrimony in the Gulf of Mexico
- “We reaffirm that we have joint and individual stewardship responsibility to manage the Gulf in a sustainable manner in order to preserve it as a resource for future generations.
- “We recognize that the Gulf represents an economic resource as well as an environmental treasure.
- “We reaffirm our commitment to regional cooperation in the management of the Gulf of Mexico.”

Next steps we have the time to do the heavy lifting some of the schedule will be to meet with Pemex to get their support, he will meet with Congressional Caucus chiefs of staff and issued an rfp for transportation study, the next step we will be taking with David and Kacky to brief the Mexican states and Blanco will call for a governors summit and the Harte summit. Governor Bush himself that we are going to do this environmental thing and work with the accord and the partnership because I don’t think there is any value in doing this without Mexico.

Review and Synthesis

Laura Cantral: We can talk to Gary about this more over beers... I don’t think can summarize all this, but I do want to mirror back a couple things I heard, and then I’ll turn it over to Kacky to talk about what’s next.

My first idea is, what do you want to accomplish in the Gulf of Mexico by doing “blank” (fill in the blank such as the white paper titles)? What do you want to accomplish by doing these things?

Second is I didn’t hear any showstoppers in going through these issues. I heard hurricanes and hazards and toxins and that in the white papers they want to add stuff. I didn’t hear anyone say that there was a huge problem

Phillip Hinesley: I think they’re hitting the mark, with still the need for some additional work.

Colleen Castille: I think they’re headed in the right direction, but need more meat. They need to come from the viewpoint of what it’s going to take at the local level to achieve what we want.

Ken Haddad: I’m going to twist a little. You should start with five priority issues, or whatever it is, but start with the policy statements and actions, and then the management actions and then the priority needs.

Kacky Andrews: Yes. I don’t see us reworking the white papers. They aren’t turning into the action plan. They were just to kick off the dialogue. The action plan will be the goals and objectives and what we want to achieve - and quantifying that. It will also get us thinking about that longer-term vision that will take more time, and will have to come more from the policy makers. But we know enough to get started on the action plan, and start thinking about vision. I’ve talked to my state partners, and we plan to meet later this summer and start writing up the goals and objectives, start writing up that Action Plan and start bouncing it off our higher levels and state/federal meeting. We need to have the feds there on some level is because it’s an important partnership.

Colleen Castille: Do you want the federal partners there?

Kacky Andrews: I think they have to be there in some way, but we'll have to figure out the level.

Kathleen Hartnett White: I think it might be wise to have short term and long term goals. I would be most interested if there were some specific things of what we would like.

Kacky Andrews: Yes, and to see that progression of here's a short term goal and here's how it leads to a mid-term and long-term (goals).

Columbus Brown: Will there be a straw document that goes out?

Kacky Andrews: No, that meeting will be to create the straw document

Jim Giattina: I pose this with respect, but I hear talk about vision and Governor's commitment, but if you go back to the Gulf of Mexico Program establishment and see the Governor's statement, it's not all that different. And what is it going to take to do it differently? We don't need just another signing ceremony.

Dan Farrow: The CZ 05' – is it possibility to piggy back on that or have we decided to avoid it.

Kacky Andrews: Decided to avoid. Week after.

Gary Lytton: Just a reminder that we have the community workshops kicking off tomorrow and over the summer. As we craft these work plans we are telling them they will be included.

Laura Cantral: And that was my question - A good reminder as move forward.

Greg Ruark: On a number of issues, particularly on the nutrient loading. We can't presume what the other states upstream will do and they are looking for ways to partner with those efforts. The Gulf is a liquid landfill and not to miss the opportunity for coordination.

Colleen Castille: I just wanted to ask you to clarify the workshops a bit more. What will they be like?

David Guggenheim: One thought we had was a series of working groups that were a little more open and involved some other folks. That's an open question. I think there's an expectation that this process will be open and increasingly participative after today's meeting.

Kacky Andrews: The Gulf of Mexico Alliance website will be set up to accept input. We also are starting a list serve, so we are gearing up to have that outreach component.

Diane Regas: There's been active collaboration in Great Lakes with workshops of up to 200 people. Lessons learned are to be very up front about constraints and it is easy to spend a lot of money and not get much and to create false expectations.

Kameran Onley: Be very blunt and very specific about that.

Gary Lytton: Workshops will be around Gulf at NEPs and NERRs. This summer, wrapped up by October.

Larry McKinney: We can't wait until October. Need it faster.

Phillip Hinesley: CSC is going to facilitate it and schedule it. We're going to help, but you're going to help us, right?

Colleen Castille: It would be good to have those workshops finished by early September and to have a draft document and get it to our bosses by six weeks in advance.

Phillip Hinesley: The CTP folks already have a schedule, so the sooner you can coordinate with them the better.

Ginger Hinchcliff: basically these folks have agreed to host local workshops. Between ERD and SPO and CSC, we're trying to coordinate the schedules. Accomplishing 9 of them by the end of August will be challenging, but we'll absolutely do what we can.

Colleen Castille: whatever we're presenting on Nov. 9, we need a draft, even if we don't have all the community input. That can be incorporated lately.

Phillip Hinesley: what kind of support are we going to have on developing this action plan?

Kacky Andrews: we'll have to figure that out.

Bryon Griffith: Just as an observer role here in terms of facilitating the previous meeting I see some missing faces in this closing. There's not clearly an indication that this workshop structure is integrated with this action plan development process. Can you alter that course and make them more complementary than you actually think they are? Case in point, one of the state folks asked if their Governor knew about it. Don't know when happening. Don't know how much outreach has been done. This is a bit of a train wreck and need to get it under control now.

Gary Lytton: We'll tighten it up. We're going to have a conference call after the first one tomorrow to talk about the how rest will work.

Ginger Hinchcliff: I completely agree we need to pull it together. We'll be able to use tomorrow's information to design the rest.

Colleen Castille: I think we should all agree what we want to accomplish in the region, and do consistent marketing. And when you're talking to the press if you would say that it would be helpful...

Diane Regas: Is there something you want to consider with respect to the mayors?

Kathleen Hartnett White: That's something that might be done by inviting all the Mayors to try to ask...

Diane Regas: Don't know enough about area, if Mayor organization...

Colleen Castille: Isn't there a national council of mayors?

David Guggenheim: Also trying to build a link between this process and link to the summit so have when get to summit have Mayors who have participated and others to make sure continuity.

Colleen Castille: That's where most of the work will be done -got to have the mayors and other local officials.

Ken Haddad: We have five themes and we haven't been asked if we are missing any? I have to bring this up Should we have fish and wildlife theme? And if not, we have to answer as to why we don't have theme in that area – it'll come up in the workshops.

Bruce Moulton: In anticipation of a request that's likely to come from my Chair, I'd appreciate a summary of this meeting, and I want a summary and a 2-pager. With the speed this is moving, I need to get some info. out.

Laura Cantral: Let me speak to that. That is a commitment we've made to you. We will be preparing a summary that will be made available to all of you. We can certainly do some summary of the summary to capture key highlights. We recognize that this is a fast moving train and that you will need to have it in your hands quickly.

Colleen Castille: Charles Chisholm asked if we could do a one pager. I said it had to be a 2-pager. How about tying this into the quality of life for our people. I told him that after today's meeting I would write something and send it to you guys.

Greg Ruark: This is maybe for Kameran. For federal agencies to respond to these things, we put in a request for increase in funding to deal with these kinds of issues, and it got kicked back by OMB. They weren't hearing what we were hearing. There needs to be a good dialogue. We're hearing white water/blue water only recently. But this is not on radar in terms of how to build a budget.

Kameran Onley: That's all the more reason to look at how spending research dollars.

Greg Ruark: It is important to have good dialogue, sometimes there is a breakdown within these agencies.

Laura Cantral: I'm going to declare that the closing comment. Other comments you can do over beer in just a minute. Summary will come ASAP. Thanks to hosts.